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Thus it will be seen that if man has passions which impel him to the destruction of man, if he be the only animal who, despising his natural means of attack and defence, has devised new means of destruction, he is also the only animal who has the desire, or the power to relieve the sufferings of his fellow citizens, and in whom the co-existence of reason and benevolence attests a moral as well as an intellectual superiority.—*Graves' Clinical Medicine.*

OCTOBER, 1868.

Convulsions. By David Prince, M. D., Jacksonville, Illinois.

A few practical considerations in relation to convulsions are hastily presented, in which all who are engaged in the practice of medicine must feel interested.

A notion has prevailed to a considerable extent among medical men, that the irritations causing convulsions are uniformly those arising out of or leading to inflammation, and that, therefore, they are evidence of increased vascular action, requiring depletion to prevent or remove the convulsions, or to interrupt their recurrence.

This view is opposed by the invariable occurrence of convulsions after extreme hemorrhage, and in the mode of dying by apnœa or suffocation, occurring equally from deficiency of blood and from deficiency of oxygen in the blood. It is also true that while deficiency of oxygen in the blood produces convulsions, the occurrence of convulsions from any other cause interferes with inspiration, resulting in deficiency of oxygen in the blood during the fit. Convulsions increase one of the causes which may produce them, and would, therefore, be necessarily fatal, were it not that the muscles which prevent the expansion of the chest loosen their hold, as if from exhaustion, permitting air again to enter the chest in sufficient

quantity to arterialize the blood, and to replace the livid hue of the skin by the usual color.

It was a recognition of the tendency of convulsions to render the blood venous, that led Dr. Marshal Hall to introduce tracheotomy in the treatment of epilepsy, thinking that if the impediment to the passage of the air through the larynx could be avoided the lungs would be filled and the blood would be maintained in an arterial condition, and thus the convulsion would be prevented or arrested. If the spasmodic closure of the glottis were the only or the chief obstacle to the entrance of air into the chest, this treatment would have produced such beneficial results as to have become generally adopted. The truth is, probably, that all the respiratory muscles are so affected as to prevent the proper expansion of the chest, and hence the opening of the trachea must prove insufficient to arrest the accumulation of carbonic acid in the blood, though the amount of accumulation may be diminished.

On the other hand, it is found that chloroform and other anæsthetics which paralyze muscular contraction, not only arrest the convulsions for the time, but that by favoring the arterialisation of the blood, they so completely break the convulsive chain of succession, as in a large number of cases to stop the fit and forestall the subsequent stupor and exhaustion, which probably depend upon the circulation of venous blood for a considerable time through the brain and cord. The chloroform, in this case, produces in the muscles that relaxation which, in the natural sequence of events, would only come from exhaustion of muscular irritability. The chloroform not only acts on the muscles in this manner, but it intercepts, through the nervous insensibility which it produces, those reflexions of eccentric irritations which arise in the teeth, the bowels, the skin, or any seat of exalted irritability.

An inflammation, on the other hand, is not suspended by an anæsthetic which puts the nerves asleep. So far, however, as pain invites a flow of blood to an inflamed part, narcotics and anæsthetics, by annulling the pain, diminish the vascular engorgement. Again, where the effects of inflammation are rendered dangerous by motion, as in the intestines, anodynes and anæsthetics favor adhesions by arresting motion, and they thus prevent the event of suppuration; but they probably do not act by directly controlling inflammation, except by removing some of its aggravating attendants.

One of the most common precursors of convulsions is the combined condition of high atmospheric temperature and the irritation of teething. The high temperature seems to diminish the power of equilibrium by which impressions are resisted, and the physiological process by which

the tooth grows and the gum is absorbed is converted into one of disease, involving the nervous and muscular systems in a convulsion. On the other hand, the inflammations are more likely to be attendant upon cold weather.

The prostrating influence of heat increases the excitability of the nervous system, and the result is not inflammation but convulsions.

The irritation of worms and other offensive agents in the alimentary canal produces convulsions and palsy, but not inflammation. There is no evidence that a fit or a palsy arising from reflex action leads to an inflammatory condition of the brain and spinal cord, even when the result is fatal.

The fontanelle, in young infants, becomes depressed, and not elevated as it might be expected to be in an inflammatory condition of the brain or its membranes, and if the symptoms of inflammation—which in this case are heat, pain, and fever—arise, the convulsions disappear.

While the attack of convulsions is, in many instances, sudden and in conditions of apparent health, the irritation having been suddenly produced, or been suddenly aggravated in degree, there are numerous instances in which the approach is slow. A tonic spasm, rather than a convulsion, especially manifested during sleep, attracts attention. According to Good, "children who are strongly disposed to convulsions are apt, when asleep, to lie with their limbs most rigidly extended, the great toe and thumbs turned inward."

This variety of approach of the disease is described in Eberle's Practice under the head of Carpo-pedal Spasms. (Ed. 1837, p. 529.)

"It should be regarded," in the language of this writer, "as a disease of unfavorable tendency; for it can not be doubted that the cerebral irritation which gives rise to the characteristic phenomena, may, under certain states of predisposition, and in co-operation with other causes tending to encephalic diseases, readily pass into a state of vascular irritation, or sub-inflammatory action of the brain or its meninges and then ultimately give rise to effusion, or lesion in the brain, or its spinal prolongation."

I have quoted this passage as a good expression of the pathology which has fallen under suspicion.

Cerebral irritation. Where is the evidence of irritation in the cerebrum, more than in the musculus biceps flexor cubiti? The functions of both are deranged, and the functions of both will be alike restored by removing the irritation, which may be local, about a protruding tooth, or along the intestinal canal, or general in the blood of a little pa-

tient that is getting insufficient nourishment out of a large quantity of poor milk. Remove the local irritation in one case, or improve the food in the other, and the apparent *cerebral irritation* disappears.

The notion that spasmodic phenomena necessarily or usually grow out of or lead to inflammation, is one which is gradually leaving the minds of medical men with improvements in the methods of practice.

Dr. Radcliffe* has proposed an electrical theory by which to account for muscular action in general and convulsions in particular. According to this theory, the state of repose is maintained by a condition of static electricity, the exterior of the fibre being positive and the interior negative. The discharge of this electricity, in analogy with the phenomena of the Leyden jar, results in contraction of the muscular fibres, and a rapid succession of discharges results in convulsions, while a condition of absence of natural animal electricity in the static condition, results in continued or spastic contraction—the condition of rigor mortis. This is the condition of a greater or less number of muscles in many affections leading to deformities by permanently distorting the parts to which the affected muscles are attached.

The illustrations of his theory are directed to show that spasmodic attacks generally occur in states of depression, and that when they are associated with fevers and inflammations they occur in the cold stage, or the stage of depression, and that when the fever or inflammation becomes established the convulsions cease, not to recur until the subsidence of the vascular excitement.

Many experiments and observations are quoted to show that a full supply of arterial blood to the nerve centers is unfavorable to convulsions, while a scanty supply, as in hemorrhage, and a deficiency of oxygen, as in suffocation, are favorable to spasmodic movements.

The increased force and fulness of the pulse, in the epileptic paroxysm, in connection with a swollen and livid face, is a condition of the circulation of venous blood through the arteries, and the benefit of bleeding is confined to its employment in the emergency to relieve the temporary pressure, and not at all to its antiphlogistic effects. If depletion were proper blood-letting would be proper before or after a fit, while upon this theory it should never be employed except during a fit, and even here it must, upon this theory, never be carried to such an extent as to be seriously felt afterward in the reduction of the amount and richness of the

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*Lectures on Epilepsy, Pain, and Paralysis. 1868.

blood; for this would be productive of a condition of nutrition most favorable to a reproduction of the attack.

The employment of blood-letting may be useful during a fit to relieve venous congestion at the time, and not to diminish the vascular activity existing before or after the paroxysm. According to this view, it would be improper to bleed in anticipation of a fit or with a view of preventing its recurrence, though the measure might be proper during the continuance of the convulsion.

In accordance with the pathology here entertained, the indication for the early employment of emetics and purgatives is to remove causes of irritation out of the alimentary canal, and in some instances out of the circulation, and not to lower the grade of vascular action.

In accordance with this view, also, mercury is an evacuant, counter-irritant, and alterative, and not a depletant.

The true indications for prevention are to remove causes of irritation and to improve the nutrition; while during the fit the perverted nervous action must be immediately arrested by an anæsthetic.

The change which has come over the mind of the profession with regard to the pathology and treatment of convulsions is illustrated by the following quotation from "Elliott's Obstetric Clinic," recently published,* in relation to puerperal convulsions: "We are tempted to use venesection in cases of puerperal eclampsia, by the recommendation of authors and of so many practitioners—by clinical traditions in short—as well as by the appearance of great congestion observed in the head and face during the progress of the attacks. The purple, livid face, lips and tongue; the congested conjunctivæ, and the duskiness of the skin which is often observed suggest abstraction of blood as a measure of relief.

"If we analyze our apprehensions, however, we find that extravasation of blood upon the brain is what we chiefly dread; and if we examine the records of autopsies, we find that such a contingency is extremely infrequent, and probably associated in a majority of cases with fatty degeneration of the blood vessels of that organ.

Moreover, it may be safely said, that a majority of the severe cases of eclampsia occur in patients who are anæmic, and whose subsequent histories display tendencies to hydræmia, and that a roborant treatment with iron is most generally indicated after the immediate dangers of the confinement have been passed."

This quotation from Elliott is a pretty fair illustration of the change

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*Review in American Journal of the Medical Sciences, April, 1868, p. 425.

which has occurred in the theory and practice in relation to puerperal convulsions.

Chloroform and delivery are now the first things thought of, and under the influence of the anæsthetic the appearances which so urgently call for bleeding pass away. So of other forms of convulsions, the full induction of anæsthesia securing the continued flow of blood through the heart and lungs arrests the venous congestion on the one hand, and on the other hand, the labor of the heart to propel blood through imperfectly expanded lungs. Perhaps this is not so much a condemnation of the practice of bleeding, as the introduction of a superior remedy, rendering bleeding unnecessary.

Within a few years, bromide of potassium has gained some reputation in convulsive diseases attending upon an atonic state of the system. From the fact that this remedy is found to be appropriate to sleeplessness following anxiety and excessive mental labor, it is probable that its mode of action is through the blood by eliminating through the kidneys some ingredient of the fluid dependent upon faulty disassimilation.

Dr. T. N. Simmons, of Hagerstown, Maryland, has reported (*Medical and Surgical Reporter*, June 6, 1868,) the use of bromide of potassium and tartrate of antimony and potassa in puerperal convulsions; forty grains of bromide of potassium with one-half grain tartrate of antimony and potassa for the first dose; afterwards ten grains bromide and one-half grain antimony repeated every hour and a half until three grains of the antimony had been taken.

The effect of a continuous current of galvanism through the brain and spinal cord in arresting spasmodic action, is probably produced through its sedative effect upon the muscular tissue of the blood vessels of the nerve centers, permitting a more free flow of blood through them and a restoration of functions.

Cod liver oil probably exerts its preservative influence by direct impartation to the nutriment of the system.

A case came under the observation of the writer a few years ago, presenting the spasmodic drawing of the little finger during sleep which, a few years earlier, would have led to the suspicion of an incipient inflammation. The general health of the little child, two or three years old, was feeble without any other symptom of actual disease, but the parents were distressed at the constant presence, during sleep, of the spasmodic closure of the little fingers. Believing that this was a symptom of inanition, a small portion of brandy was given every night, and a dessert

spoonful of cod liver oil three times a day, with good food, and the child speedily dropped its spasm and rapidly improved in flesh.

Later than this an infant at the breast, three weeks old, was attacked with convulsions. It was a significant fact that in this family several children had already died of convulsive affections. Another significant fact was that the mother had uniformly found it necessary to feed her children early on account of the poor quality of her milk. Acting upon the suggestions made by these facts, in addition to a purge for the removal of possible fæces of an irritating character, some milk punch was administered, with instructions to give the child cream as a part of its food. There was no further trouble with this little patient.

Insufficient nourishment was the sole cause of failure of nerve function, and the supply of nourishment was all that was necessary to prevent a recurrence of fits.

It has been attempted in this paper to present considerations which may aid in the discrimination of pathological conditions, and of appropriate remedies, and not to condemn any treatment in toto.

Tracheotomy in Croup.—Translated from the *Archives Générales*, July, 1868, by Dr. T. Parvin.

The operation of *tracheotomy in croup*, frequently examined and discussed in various learned societies, was made the order of the day in the *Société Médicale des Hopitaux*. From the brief testimony which we proceed to give it will be seen what progress the practice of tracheotomy, for so many years a subject of discussion, has realized to-day.

In fact, just in proportion as the profession has learned the direct effect of this operation, they have been led to increase the indications, and on the other hand diminish the contra-indications; to ascertain that the unfortunate results, if not always, at least in the very great majority of cases, were to be attributed to the malady or to its accidental complications, and not to the operation; in a word, to exonerate tracheotomy from very many of the objections that have been alleged against it in order to secure only the undoubted advantages and benefits of it.

The discussion originated in the report of a sncccssful case of tracheotomy in an infant of sixteen months, by M. Isambert. This infant, of

rather feeble constitution, had suffered from croup for three days, and presented continuous symptoms of asphyxia when the operation was decided upon. M. Isambert resorted to the operation of M. Chassaignac, that is to say immediate puncture of the trachea previously elevated with the tenaculum. The operation was done with ease, and with but little hemorrhage. The results were very simple, except a threatened pneumonia, which yielded readily to small doses of musk, all went on well; the fifth day the canula was finally removed, and fourteen days after the operation the cicatrization was complete.

In connection with this case M. Isambert dwelt upon several interesting points, especially the age of the patient. Up to the present a very early age has been regarded as a contra-indication to tracheotomy; it has been almost a positive rule not to operate on infants under three years, and especially under eighteen months. This point appears to have been established in the discussions upon this subject in 1858, in the Academy of Medicine, and in the Hospital Medical Society, notwithstanding a certain number of cases published since that time, and the encouraging words of Trousseau, it has been held as the rule not to operate unless in the rarest exceptions in children under two years of age. This recent success previously related, ought to encourage us not to reject tracheotomy in these conditions.

M. Isambert also dwelt upon the method to which he resorted. This rapid proceeding appeared to him particularly applicable to very young subjects; there is less risk of hemorrhage, and should it occur, it is very quickly arrested by the introduction of the canula, and the cicatrization of the wound is more rapid and uniform.

M. Archambault referred to two cases in his own practice of successful tracheotomy in early infancy; one of the subjects was eighteen months old, the other, thirteen. In the latter case the success was so much more worthy of being noted, asphyxia had already reached its final stage, and M. Archambault was on the point of abandoning the case, so desperate did it seem.

It has been said that after seven years of age, tracheotomy had little success. M. Archambault disputed this opinion which is weakened every day. Nevertheless, it is indisputable that in the adult tracheotomy for croup is not successful. Trousseau attributed this to the fact that the greater dimensions of the larynx at this period of life retard the development of asphyxia, so that it is not sufficiently urgent to demand opening the trachea until the bronchi are already invaded by the false membranes.

Among the gravest complications M. Archambault insisted upon

broncho-pneumonia, which is almost inevitably fatal, if it already exists at the time of the operation, or if it occurs very soon after; 'it is,' he added, 'extremely difficult to recognize its physical signs during the period of asphyxia of croup; we can in truth guess rather than diagnose its existence, in considering the frequency of the pulse and of respiration (140 and 40), while in the cases where there is only croupal asphyxia the frequency of the respiration and the febrile movement are much less intense.'

As to the proper period for operating, M. Archambault believed that it was not advisable to be in haste; cases are cured without an operation, even after the second period; he believed that the operation ought to be deferred to the third period that is confirmed asphyxia.

M. Vigla had seen a successful case at seventeen months, and in the period of asphyxia. He thought that when there was a distinct indication for operating, the age should not be regarded as a contra-indication.

M. Potain had likewise observed a successful case in an infant of eighteen months; another infant only sixteen months old had lived four weeks and succumbed to a broncho-pneumonia, connected with tracheal ulceration, due to the prolonged sojourn of the canula. These two subjects were operated on in the stage of asphyxia. In one of them, after having in vain tried to remove the canula, he at once succeeded in making the infant breathe without the instrument, by practicing laryngeal *aradisation*.

M. Roger referred to the remarks which M. Archambault had made relative to tracheotomy over seven years. According to the statistics which M. Roger had prepared in conjunction with M. Sée, statistics embracing a period of over twenty years, the average of success being twenty-two to twenty-five per cent., there was scarcely one per cent. below two years; but between seven and ten years the per centage increased to thirty-two or thirty-three. M. Roger observed, as did M. Archambault, among the list of most serious contra-indications the great frequency of the pulse, which was almost invariably connected with a broncho-pneumonia; nevertheless he had witnessed a cure in an infant where the pulse was 210 before the operation. In his opinion the most important contra-indication was the evidence of a grave general condition difficult to describe in words, which manifested itself by the decoloration of the tissues, the cachectic aspect, a peculiar expression of the countenance, and of which the importance, in view of an unfavorable prognosis, was infinitely greater than that of the most violent dyspnœa.

As to the extension of false membranes to the bronchi, its recognition is difficult, the intensity of the phenomena of constitutional poisoning

has, in this case, more value than the signs derived from auscultation; besides, the symptoms of rapid asphyxia, of suffocation, are then less marked than when the diptheritic exudation is localized in the larynx.

Relative to the time when it is adviseable to operate, M. Roger differed from M. Archambault. Statistics plainly proved that it was not at the end but at the commencement of the period of asphyxia that it is necessary to intervene. Most frequently, at this moment the medical means which ought to have been previously employed become insufficient, and it would be better to operate at once rather than wait for confirmed asphyxia, which may in fact induce pulmonary lesions, emphysema, pulmonary congestions, broncho-pneumonia.

M. Moutard-Martin during his residence at Saint-Antoine had counted seven tracheotomies for croup in infants under two years. One of these patients, less than eighteen months old, was rapidly cured, although it had reached the period of asphyxia. M. Moutard-Martin added that according to his observation the prognosis varied absolutely according as the asphyxiated infant presented a cyanosed hue, or a pale cachectic hue. In this last form of asphyxia, whether it appeared at the first outset or subsequently, he had constantly found bronchial diphtheria.

M. Roger participated in this view. He had quite early been careful to remark the difference, with reference to prognosis, between the cases having a cyanosed tint (asphyxia from laryngeal mechanical obstacles), from those which presented the pale cachectic tint, a certain indication of diphtheritic poisoning

Under the title, "*De la Tracheotomy, et du Croup,*" M. Peter read to the Society an elaborate and interesting paper, in which he entered upon the different questions which the discussion had previously presented, and of this paper we give a *resumé*:

Tracheotomy, at a very early age, is an operation not only very difficult, but also very dangerous. The causes of these difficulties are the, shortness of the neck, the straightness and flaccidity of the trachea, the ordinary plumpness of the throat which often prevents recognizing the projection of the cricoid cartilage, and renders one liable to confound it with the thyroid cartilage, finally, the mobility of the trachea; hence the mistakes, the operative accidents, of which M. Peter reported several cases. It is for these reasons that M. Isambert advised the method of M. Chassaignac; but this method is not free from danger, for there is the risk of perforating the trachea and cutting the œsophagus.

As to the contra-indications in reference to age, M. Peter did not regard a very young age as a contra-indication in itself. It is especially

necessary in reference to this point to oppose the statistics of the city to those of the hospital; the latter does not give favorable results—the former does; almost all the successful cases in very young infants have been in the city. The reason of this difference is in the difference of previous health, of hereditary constitution, of surroundings; the population of hospitals for infants having already been debilitated by bad hygiene and born of unhealthy parentage. A similar inference is apparent at a more advanced age, but it is then less pronounced.

M. Peter subsequently considered the diagnosis of pseudo-membranous bronchitis. To the sign indicated by M. Moutard-Martin, and which is one of the most characteristic, to-wit, the paleness in the asphyxia, he added some others; the frequence of the respiratory movements, much more considerable when the dyspnœa is thoracic than when it is laryngeal; the dryness of the canula after tracheotomy; in fact when the bronchi are lined with false membranes they cannot secrete the mucus, which in fortunate cases, on the contrary, escapes in abundance. To these indirect signs but a single and positive one can be added, that is the discharge of false membranes finely canaliculated and arborescent.

This diphtheric bronchitis was much more frequent than generally believed; M. Peter had seen it in fifty-two out of one-hundred and five autopsies. He regarded it, however, simply as one of the elements of diphtheria of the air-passages; this was a disease of the entire extent of these passages. The bronchitis, and even the pneumonia occuring in croup are the natural consequences of diphtheria; they are not caused, as is too often said, from incorrect interpretations of the facts, by the tracheotomy; the conclusive proof of this is that pneumonia does not supervene upon tracheotomies practiced for foreign bodies. We can not, therefore, attribute the pneumonia to the tracheotomy when it is so rational in reference to the nature of the disease, and so simple to explain it, by the usual course of the malady, the extension of a malady essentially progressive.

"From all which precedes," said M. Peter, "it follows, in my opinion, that neither bronchial diphtheria, nor pneumonia, furnishes a positive contra-indication to tracheotomy. At first, because we can never be certain that the patient suffering with croup has not actual diphtheritic bronchitis, or pneumonia, or that one or the other may not soon occur, which indeed is probable; subsequently, because clinical observation has demonstrated that pseudo-membranous bronchitis can not be cured as croup. There is not in my opinion, but a single positive and absolute contra-indication to tracheotomy, and this is the profound poisoning, which is recognized by the waxy paleness of the face, the great glandular swelling, the puffiness,

the dark grey appearance of the false membranes, very offensive breath, the general collapse, and the tendency to coldness."

M. Archambault, in a second communication presented his views upon tracheotomy in the last stage of croup, upon the oportune time for the operation, and discussed the contra-indications of different authorities.

In sixty-five tracheotomies performed in the city upon infants, there were twenty-one cures. Almost five-sixths of those operated upon had arrived at the end of the stage of asphyxia of croup, that is to say judging from the symptoms of asphyxia, life would soon cease. Now, the results in these cases were obviously the same as in those in which the operation was performed before this extreme period. Nevertheless, M. Archambault did not conclude that it was advisable to wait so long a time before operating, he recognized all the inconveniences of this practice; that which he wished to establish is, that asphyxia carried to an extreme point did not involve for the operation such evil consequences as could be feared. "It is never too late," he said, "to perform tracheotomy until the patient is actually dead." This is, as may be readily conceived, a very important point; for the physician cannot always at his pleasure determine the conditions of the operation; the opposition of the family; a number of accidental circumstances may place the operator in apparently the most helpless conditions: It is of the greatest importance to know *that it is never too late.*

M. Archambault then examined the alleged contra-indications to tracheotomy. As to that relating to age, recognizing that the chances of success are not the same at different periods of infancy, he established by examples of success in early life, that tracheotomy ought to be performed when it remains the sole means of prolonging life, and besides nothing contra-indicates it. As to the acknowledged belief, that after the age of seven years the operation does not succeed, it is positively contradicted by facts. M. Archambault then came to this conclusion, that the chances of success of the operations in croup are so much less as the infants are young, that they increase with the age of the subjects, but that in no case should this be regarded as a contra-indication.

Temperament and constitution scarcely furnish a precise indication. From his own experience M. Archambault was led to think that in robust infants of sanguine temperament, tracheotomy offered fewer chances of success than in infants somewhat feeble and of lymphatic temperament. In addition, the previous disposition of infants to bronchial secretion was a favorable point—the more abundant these secretions, the greater probability of a cure.

Nor can we any more find an absolute contra-indication in a confirmed

diathesis the manifestations of which are apparent; for tracheotomy is necessarily designed to meet an urgent emergency, and does not prevent calling into requisition all other means.

The extension of false membranes to the bronchi is difficult to determine; at the most, those cases in which this extension has been ascertained, should be regarded as less favorable for an operation, and not as forbidding it, since recovery after the expulsion of false membranes is far from being rare.

The existence of a broncho-pneumonia seems to be one of the most important reasons for rejecting tracheotomy; but the diagnosis is very difficult (the frequency of the respiration seems to be one of the most certain symptoms; when this is more than fifty a minute, the diagnosis is almost certain); but even if the diagnosis of a broncho-pneumonia is positive, it can not be with absolute certainty decided that the operation will not be successful. M. Archambault added, that if broncho-pneumonia which existed at the time of the operation has always been mortal, that which occurs the first day after the operation is not invariably so, and that which follows still later gives results still better.

The croup secondary to measles or scarlet fever, although little favorable for an operation, does not absolutely contra-indicate it. Success has been obtained even in such conditions, and M. Archambault cited cases from his own practice.

"One sees," said M. Archambault, in conclusion, "that in going over the ground, I have met with very few contra-indications. In truth, they can not be but very rare, for we are considering an operation whose legitimate claim is, not to attack the disease, but to terminate the asphyxia, prolong the life, placing the patient thus in the best conditions in order to triumph over the disease."

M. Bourdillat, *Interne of the Hopital Sainte-Eugenie*, presented to the Society the statistics of the operations performed in this hospital; want of space prevents our publishing them in full; we limit ourselves to the presentation of two points stated in this communication. The author, sharing in the opinion a long time common among the *internes* of childrens hospitals, commended the rapid operation; he wished to reduce it even to two cuts of the bistoury, one for the section of the soft parts, the other for that of the trachea. The chief advantage of this method is the prevention of hemorrhage.

Contrary to the opinion of some authors, M. Bourdillat showed that pharyngeal diphtheria is not inseparable from croup; out of one-hundred and twenty cases occurring in three years in the service of M. Bergeron, pharyngeal diphtheria was not present in forty-six, that is in about one-third of the cases.

M. Dumontpallier claimed for Trousseau the honor of being the first to assert this fact, which appeared established by the discussion, to-wit, that an early age is not a contra-indication of tracheotomy.

Finally M. Isambert summed up the discussion, and of this *resume* the following are the most essential points: "There is no absolute contra-indication of tracheotomy; that of age has been set aside by this discussion; those of different morbid states are for almost all our colleagues reduced to the evident presence of a generalized diphtheria, and yet we may ask in regard to this, in what respect the operation can aggravate the danger?

There is no longer any contra-indication resulting from this or that rule; the expediency of it remains a question of art, the appreciation of which depends especially upon the general state of the patient, of the morbid character, or of the malignity of the disease to which he is a prey."

Progress in Pathology. Tubercle. Pus. By JAS. F. HIBBERD, M. D. Richmond Ind.

It were a work of great labor and a useless task to recount all the conclusions that have been promulged in regard to the origin, nature and fate of tubercle, by Laennec and other eminent pathologists of, and since his time. Nevertheless, somewhat of the leading ideas of the past and present in this behalf must be rehearsed to serve as a foundation for a review of the of the recent observations and experiments which seem to be focusing our knowledge to something more nearly approaching unity.

Several kinds of tubercle have been named and described, but two leading varieties are recognized almost universally,—one known by the various names of gray, miliary, and granular tubercle, semi-transparent granulations and granulations of Bayle; the other is designated, yellow and cheesy tubercle. The former is as its various name imply, small, gray, hard, and translucent. The latter may vary in size from a millet seed to an orange, is yellow in color and cheesy in consistence. All encysted, infiltrated, stratiform and lamellated tubercle properly belong to one or the other of these varieties, their location or other accidental circumstances generally giving them the character that determine their appellation.

Laennec believed that gray, hard tubercle was young tubercle, and that yellow cheesy tubercle was an older stage of the same. In these views he has been sustained by Louis, Lugol, Walshe and many other writers to the present time.

On the other hand, Bayle, Hasse, Rokitansky, Andral and a host of good men assert the clear non-identity of the two, though most of them admit some modified relationship, and a frequent intermingling or junction of the two varieties.

Some modern writers insit that the gray granulations are improperly called tubercle, and that the title should be exclusively confined to the yellow tubercle, which alone possesses the characteristic histological formation.

Perhaps all pathologists of note heretofore have entertained a common sentiment that tubercle always arises in a dyscrasy of the system. But in relation to the the nature of this dyscrasy there has not been even an approximation to unity.

Sir James Clark attributed it to a faulty general physical structure, inherited or otherwise, and as as he described it, it was the same as given, long ago, by Hufeland as indicative of a scrofulous constitution.

Dr. Bennett of Edinburgh, following many German authorities, declares acidity of the primæ viæ with deficiency of oleaginous material in the system, to be the basis of the difficulty.

Dr. Campbell assigns the defect to an imperfect developement of the capillaries of the lungs, and M. Ancell found such a tenuity and weakness in the walls of the heart, arteries, capillaries and veins, as gave rise to a sluggish circulation, and out of this grew the mischief.

However observers may have differed about the original condition giving birth to the tuberculous cachexy, there has been something aproaching unanimity in the conclusion that defective digestion, imperfect assimilation, and some intangible abnormality of the blood, were the leading factors in the dyscrasy.

At the time that all deposits were regarded as secretions, tubercle was suppossed to be a secretion, also, of a peculiar character due to the dyscrasy. Carswell maintained this view of its origin. But when the doctrine of exudation came into vogue, the tubecular deposit was decreed to come about in the same way, and it developed into tubercle instead of something else because of the especial dyscrasy. Bennett may be looked upon as an exemplar of this view, and he says (*Clinical Medicine.*) "when under such circumstances, exudation occurs in one or more textures, it does not undergo the changes we observe following inflammation in healthy

persons. The vital changes are slow and easily arrested. Instead ot cells and perfect textures being produced the efforts at vital transformations are abortive. The whole remains molecular and granular, or at most ill-formed nuclei are produced which have received the name of tubercle corpuscles." This is still the position of those who hold that new growths have their genesis in a plasma poured out from the blood vessels, which, for that purpose, becomes organized by first forming nucleated cells, and from thence proceeding to higher forms of developed tissue.

Virehow in his Cellular Pathology says tubercle, "just like all other new formations, has its origin in connective tissue, and which, when it has reached a certain degree of developement, constitutes a minute knot wiihin this tissue, * * * is always a pitiful production, a new-formation from its very outset miserable."

Micrographers have exhibited almost as much variety in the resnlt of their labor on tubercle as have the workers in any other department. Look at the pictures of half a dozen of them, each sample purporting to be a *fac simile* of what its maker saw, and yet the likeness of any two so small that an uneducated observer would not suspect a relationship.

Lebert described the tubercle corpuscle which Rokitansky characterized as "often to a great extent misshapen, disorderly, jagged, angular, bulging, dumb-bell shaped rudimental, stunted." Most morbid anatomists find this corpuscle under some form in all tubercles, nevertheless there are not wanting microscopists of eminence who have been unable to find any morphological element in tubercle sufficiently uniform and constant to be considered pathognomonic; and Robin one of the first micrographers of France and of world-wide reputation, declares that gray tubercle does not present any corpuscle, and on this athority, Flint in his recent treatise on Practical Medicine, declares most emphatically that these gray, hard, semi-transparent granulations are not tubercles at all, and confines the title to the yellow cheesy mass, in which, he say, the characteristic corpuscle is always present.

That tubercle is not the product of proper inflammatory action is undoubtedly the prevailing professional sentiment, yet nevertheless, this idea is by no means universal; many able pathologists have had doubts upon this point, and some have asserted that tubercle is always the result of inflammation.

Rokitansky (*Path. Anat.*) says "in fine, *tubercle is frequently thrown out in the sequel of inflammation.* It is the produce of such inflammation, and its sole distinguishing feature."

Paget (*Surg. Path.*) in his comprehensive and fair dealing way, announces, that under certain conditions he believes "that a distinction of

degenerate lymph from tubercle may be impossible" aand "similar difficulties may exist in the diagnosis between tubercle and some instances of chronic pneumonia."

Bennett (*Clin. Med.*) asserts that "there is little difference between a chronic pneumonia of the apex of a lung and a phthisis; the one indeed passing into the other."

Gross in his *Path. Anat.* is very positive that all tubercle is of inflammatory origin, and he joins Carmichael and others in maintaining that tubercle has an independent vitality, and that it not only may, but frequently does, become organized.

Virchow and his coadjutors have done much to harmonize discordant opinions upon this point, by showing that not only inflammatory action, usually so recognized, is confined to connective tissue, but that all morbid new-growths as well, have their genesis in this texture, and that cheesy degeneration may occur to any formation of either variety. This last has been of prime importance in removing some long standing impediments out of the way of a better view of the pathological changes that occur. For while it was believed that the cheesy transformation was peculiar to tubercular accumulations, such belief constituted a stumbling-block of such dimensions that it required the most nimble, elastic and accommodating logic to get over or around, and maintain that all the abnormal deposit that was called tubercle really was tubercle and that none of it was the product of inflammation.

Indeed it had to be admitted by Hasse, Blakiston and many of their successors, that gray tubercle surrounding, for instance, vomicæ in the lungs were produced out of the inflammatory excitement of the softening tubercle which gave rise to the vomicæ, not necessarily as a direct product of the inflammation, but deposited from blood laboring under a tuberculous cachexy, incited thereto by the inflammatory process. This however did not militate against the dogma of Laennec, that gray tubercle was new tubercle, because he and his followers explained the relation found to exist by declaring that the tubercle now diffluent was was originally a mass of gray granulations, first becoming cheesy in the center and then dissolving into a puriform fluid, and that the surrounding granulations were new deposits just like the old, and presently they will have gone through precisely the same transformations.

We now propose to study tuberculosis, so-called by the teachings of that class of modern pathologists who are fairly represented by Felix Von Niemeyer* which clears away many of the clouds that made all for-

*A German Professor, and the author of several medical works, two of which, a Text Book of Practical Medicine, and Clinical Lectures on Pulmonary Phthisis, have been translate dand published in this country.

mer views somewhat nebulus,—in the light of which we may see that some of the old stumbling-blocks are such only when viewed from a wrong stand-point, and which harmonize a large portion, if not all, of the former discrepancies and antagonisms, both of theoretical and practical nature.

In the first place we must take a position diametrically opposite to those who deny to gray granulations the characteristics of tubercle, and allow them exclusively to the yellow cheesy masses, and declare that the gray granulations are the only morbid product that present elements pathognomonic of tubercle, while the yellow cheesy masses clearly enough have their origin in inflammation.

It is not necessary in this connection to point out minutely how it was that Laennec and others were led into the error of supposing that the great softening masses met with in the lungs of phthisical patients were originally but aggregations of the miliary tubercle such as were generally found around these suppurating points and in the meninges of the brain and the serous sac of the abdomen, etc. Let it suffice to repeat that many observers, and among them so acute a microscopist as Robin have recognized the dissimilarity, and that the propriety of confining the term tubercle to the gray miliary granulations finds its justification in the fact that the yellow caseous masses correspond in all their phenomena of origin progress and termination with the products of common inflammation.

The lungs being the chief locality of the deposit usually known as tubercle, I will epitomize the views of Niemeyer in regard to the nature, order and progress of events in that situation.

Niemeyer instances four varieties of pneumonia, viz:

I. *Croupal Pneumonia* is our common acute pneumonia and consists essentially of the formation of false membrane in the alveoli of the lungs. Ordinarily the cells constituting the solidifying material fill up, undergo fatty degeneration and are reabsorbed, leaving the lungs, alveoli and all, in a restored state. Occasionally, however, instead of this the more fluid part of the solidifying material is absorbed, the new made cells shrivel up, the mass changing color becomes friable, constituting the caseous degeneration, and has heretofore been known as yellow tubercle.

II. *Catarrhal Pneumonia* is an inflammation of the mucous membrane of the smaller bronchi extending to the epithelium of the alveoli, the cells of which multiply, fill up the vesicle, and then pursue the same course as in croupal pneumonia, more frequently, however, undergoing the cheesy metamorphosis than in the preceeding variety.

III. *Chronic Catarrhal Pneumonia* is the same as the last preceding except that, as its name implies, it is chronic in character, and as a rule

is insiduous in its onset and undemonstrative in its career. Its termination is like the last preceding, only that the frequency of the end in caseous degeneration is much increased.

IV. *Interstitial Pneumonia* is an inflammation of the connective tissue intervening between the air vesicles of the lungs. The proliferation of the connective tissue cells may continue until the lung implicated is solidified, or the morbid activity may involve secondarily the epithelium of the alveoli, and thus have assistance in reaching the state of induration. This is also denominated *chronic pneumonia* and it is the rule for it to terminate in cheesy degeneration, though instances are not wanting of emulsification and absorption.

Let it be understood that in each of these pneumonias the part of the lung involved may be only a single lobule, or any number of lobules, even to the entire viscus, and that when several lobules are thus inflamed a part of them may undergo resolution, and a part of them become the subject of caseous degeneration. Furthermore, one lobule, or more, may thus degenerate after one attack of inflammation, and another, or other, lobules at subsequent attacks; and in this way it may happen that of several indurated spots in one lung no two of them may be of the same age. Indeed, this is the rule. A person out of health will have a little patch of inflammation in one lung, most probably chronic in character, and so insidious that he will not suspect himself of having such a malady; this will become cheesy, and, remaining dormant, the patient will recover a fair degree of health, to be followed, sooner or later, by a new inflammation and the formation of a new caseous nodule, every fresh attack making the advent of still another more easy.

These caseous infiltrations may presently undergo fatty degeneration and be absorbed, carrying with them so much of the lung as has been imprisoned and its vitality destroyed by pressure and the obliteration of its circulation. As the morbid formation is removed, the surrounding connective tissue has its cells rapidly proliferated to fill up the space with common cicatricial tissue, which, afterward contracting, puckers up the lung and causes the thoracic walls to shrink in; but as these walls can only yield to a certain extent, the remainder of the contraction takes place at the expense of the neighboring bronchi, enlarging their calibre, and making in them permanent cavities. This process may be so complete that a necropsy will only reveal cicatrices and these bronchiectatic cavities, no remnant of cheesy infiltration being found; but sometimes as the caseous matter is absorbed, cretaceous salts are deposited, which becoming encapsuled through the activity of the connective tissue, give us what is called *calcification* of the lungs.

Still another series of phenomena happens to these caseous infiltrations, and unfortunately one that is but too frequent. The mass will soften, the imprisoned parenchyma break down, the surrounding tissues set up purulo-ulcerative inflammation, making an opening into a bronchus, and the liquefied mass is expectorated, constituting phthisis pulmonalis. When the caseous infiltration takes on this course rapidly, immediately after its formation, as it sometimes does after croupal and acute catarrhal pneumonia in adults, and in children after rubeola and pertussis, it is designated "phthisis florida" or "galloping consumption." If the change is slow to begin, and chronic in its course, it constitutes common consumption; and in either case may continue until so much of the parenchyma of the lung is destroyed, or such complications arise as are incompatible with the continuance of life.

It will be observed that all this takes place, and no mention even of the presence of tubercle.

This pathological new formation is, however, very liable to complicate the progress of phthisis pulmonalis, more especially the common or chronic variety. It appears to be excited by the degeneration of the caseous infiltration, and the miliary granulations generally surround the softening nodule, so that even Laennec regarded them as secondary and new formations growing out of the old.

But these tubercles may form not only around the cavity, but in other localities in the lungs, and even in distant parts of the system; the law being that cheesy infiltrations give birth to tubercularization.

Niemeyer is inclined to think that the tubercles found on the exterior of the intestinal canal as a complication of phthisis pulmonalis are not due directly to the disease of the lungs, but to the ulceration of the intestinal glands, which are undergoing a species of scrofulous degeneration, like the lymphatic glands of the neck in strumous children.

Rokitansky and Buhl both declare that tubercular meningitis is always associated with scrofulous lymphatic glands somewhere.

Niemeyer does not deny that there are cases of *tubercular* phthisis, but believes that they start from caseous degenerate bronchial glands. Tubercles form around these, and these tubercles in turn undergo cheesy transformation, liquefy, and are expectorated, and thus give rise to further tubercularization; for we must not forget that any caseous degeneration may excite tubercles, and that any hyperplastic or new formation may undergo cheesy transformation.

We see, therefore, that consumption may run its course without the presence of tubercles, but that is apt to become complicated, sooner or later, by their presence; and the point of great practical importance in

this is that as long as we have to deal only with softening caseous infiltrations we may hope, under enlightened professional management, to have the morbid material discharged, the cavity closed up, and the patient recover; but when tubercularization is added the case may be regarded as hopeless.

Niemeyer gives the signs and symptoms by which the accomplished diagnostician may satisfy himself of the presence or absence of tubercular complications in the progress of phthisis pulmonalis.

Much light has recently been thrown on the genesis of tubercles in rodents by experiments at the hands of various European scientists. In 1865–6 Villemin inserted various substances into the subcutaneous connective tissue of rabbits, from the results of which he deduced the dogma that tubercle alone generates tubercle. From the experience of subsequent investigators one is almost led to the idea that Villmin had a theory preformed, and could only see such events in the progress of his investigations as tended to establish its correctness. However, Lebert, on the Continent, and Simon, in England, repeated Villemin's experiments and arrived at pretty much the same conclusion.

Herard and Corneil inoculated five rabbits, three with miliary tuberculous matter, and two with cheesy material from the lungs. They announce the result to be that the former engenders tubercle in various organs of the inoculated animal, while the latter does not. Messrs. Herard and Corneil regard the gray granulations, only, as tubercle, while they look upon the cheesy masses in phthisical lungs as the product of catarrhal inflammation.

While these several sets of experiments differed in some respects, they had this common result, namely, to lead their conductors to the conclusion that tuberculosis was a specific disease, and that tubercle was generated only by tubercle.

Dr. Clark in 1867 instituted some experiments that convinced him that the inoculation of other material than that derived from tubercle would render animals tuberculous. I have not met with a detailed history of Dr. Clark's proceedings, but the discrepancy between him and the others before mentioned, led divers persons into the investigation, and the results of the labors of a number of experiments are before the public.

Fox, Anderson, Piorry and others, during the last few months, have reported experiments on great numbers of Guinea pigs and rabbits. As the results are the same in all, so far as pertinent to the inquiry of the present paper, a brief summary of them is as much as will be here attempted.

Of the substances which, being inserted into the sub-cutaneous connective tissue, produced tubercle proper in various organs, there were tubercle, inflammatory products, sputa from phthisis, pus, various forms of material from cheesy pneumonia, acutely inflamed tissue, chronically inflamed and degenerated tissue from various organs, thread charged with vaccine lymph, old putrid muscle, setons, clean cotton thread, mechanical irritation, etc.

Among the inoculated substances which produced no tubercle were sputa from chronic bronchitis and acute pneumonia, diphtheritic membrane, matter from Peyer's patches in typhoid, thread charged from syphilitic sores, cancer, etc. In short most non-specific material that created enough irritation to excite the tissue to abnormal activity without producing destructive inflammation, induced, sooner or later, the generation of tubercle; while specific virus, and such substances as brought about immediate destructive inflammation, had no such sequel.

Among the articles that produced tubercle there was, however, a great difference in their activity to this end, the materials from true tubercle, and the cheesy pneumonias being much the most powerful in this direction.

The phenomena following an inoculation that was fruitful of tubercle were, generally speaking, these: At the point of insertion, induration and cheesy degeneration occurred. Around this at short distances, in the connective tissue, gray granulations, often cheesy in their centers were found. Lymphatic glands associated with these parts took on hyperplasia and then the caseous degeneration, and subsequently all parts of the organism, particularly the lungs, intestines, etc., became infiltrated with tubercle.

One cannot fail to observe how closely the phenomena in these rodents follow those claimed to occur in the human system in phthisis pulmonalis by Niemeyer and his coadjutors. And if these results shall be confirmed by future testimony, and the same events can be predicated of man, how cheering an alteration must take place in our views of the pathology of common consumption; and based on these altered views of pathology, how vastly brighter will grow our hopes of giving successful prophylactic and therapeutic attention to our phthisical patients.

This is not the place to follow this idea into its ultimate ramifications, but it may not be amiss to point out that it destroys the specificity of phthisis pulmonalis, its contagiousness, its hereditariness, and other of its most alarming attributes, and puts it on the plane of common preventable and curable disorders.

There is another department of pathology wherein something of a revolution is supposed to be going on, and which is so nearly allied to what we have been considering, that it may not be inappropriate to give it our attention for a little space. I allude to the formation of pus.

Two leading theories are entertained in relation to supprative inflammation. First: The plasma of the blood is supposed to be exuded into the part inflamed, and this serves as a blastema in which originate cells that degenerate, and floating in a liquor puris constitute pus. This is the teaching of most eminent British pathologists, and perhaps the Vienna school of Germans. Secondly: The cells of the connective tissue multiply by proliferation, and then, instead of developing into tissue proper, they degenerate into pus globules, the more fluid parts of the blood exude through the cells and serve as the liquor puris. This is the doctrine of Virchow and the Berlin school of German pathologists.

Virchow also declared that neither the microscope nor chemistry showed any difference between pus corpuscles and the white corpuscles of the blood, and that we could only determine whether they belonged to one or the other class by ascertaining whether they were inside or outside the blood vessels.

He also announced the existence of, and pictured certain juice-bearing canals in connective tissue* which gave passage to a colorless fluid from the blood, that nourished parts devoid of blood vessels proper *e. g.*, the cornea, inter vascular spaces, etc.

Certain German philosophers have apparently convinced the world at last that an exterior limiting membrane is not an essential part of a cell. They instance the amœba which is at the bottom of the scale of animal existence, and which consists of a lump of homogeneous protoplasma. It takes its nourishment by causing the particle of organic substance it is about to eat, to sink into its substance at any point; or, perhaps it would be more nearly correct to say, that it laps itself around its food, and having absorbed from the aliment what it can use as nutriment, unfolds itself and permits the residue to escape. It possesses the power of locomotion by virtue of sending out a prolongation of its substance, or several such prolongations, attaching one to some supporting point and then following to that point with its whole body.

It has also been conceded that pus corpuscles and blood corpuscles (both colored and white) are simple lumps of protoplasma without cell-membrane. This latter point has been insisted on for many years by Prof. Dalton in our own country, and by Beale in England.

*A recent writer in the Medical *Record* gives Recklinghausen credit for first having proclaimed these canals in 1862, but Virchow treats of them at some length in his work published in 1858.

Recklinghausen discovered that pus corpuscles, in their normal condition, have the same vital power of altering their shape and changing their position that is possessed by the amœba, and these phenomena are accomplished by the same process.

Haeckel ascertained that the white corpuscles of the blood have a similar vital endowment. Thus we seem to arrive at the fact that these morphological elements of the human frame have a vitality of their own, corresponding to that of the simplest animal creation.

Cohnheim, by observation on inflamed corneæ of frogs determined, first, that pus corpuscles are not transformed connective tissue cells, as supposed by Virchow; and, secondly, that they are not made in the cornea at all, but first accumulate at the border of the cornea in connection with congested blood vessels, and then are presently transferred to the inflamed point in the cornea, leaving the margin clear of them.

Certain pigments, aniline blue for instance, injected into the circulation of frogs will color the white corpuscles of the blood nd no other texture. Cohnheim found when he thus colored the white blood corpuscles of a frog, and then produced keratitis, that the pus corpuscles that accumulated on the margin of the cornea were also blue, and that they were transmitted from this situation to the inflamed spot through the juice canals already spoken of. Here, then, was demonstrated the important fact that pus corpuscles were white blood corpuscles in an abnormal situation. No wonder Virchow could find no microscopical or chemical difference between them.

The next step was to determine how these colorless corpuscles of the blood accomplished their migration from the interior of the blood vessels to the point of inflammation. To carry out this purpose observations were transferred from the cornea of the frog to his mesentery, and after all the necessary preparations were made and precautions taken—and they were numerous and intricate—the following phenomena were established: The mesentery being excited to inflammation, the arteries dilate to double their original size, the current of blood is retarded, and colorless corpuscles line the interior of the arterial walls. This condition of the arteries remains during the continuance of the inflammation.

Next the veins also enlarge to double their normal calibre, and have the white corpuscles form a motionless layer against the interior of their walls, while the red corpuscles continue in a laggard stream along their center. After while a white corpuscle sends out a prolongation against the wall of the vessel which seems to push the wall before it, making a protuberance on the wall's exterior. This protuberance continues to en-

large, soon becomes pearshaped and attached to the vessel only by a slender pedicle, and when this separates there is a white corpuscle outside the vein, with one or several projections, and no perceptible opening through which it came. Nevertheless Oedmansson discovered stomata in the walls of the blood vessels, and Aeby and Ouerbach found the same in the walls of the capillaries, and it is by these that the active globules find their way out.

This transudation continues around the venous surface until there are several rows of contractile colorless corpuscles on the outside of the vessels, and still they continue to penetrate its walls.

After the arteries and veins have been in these conditions sometime, the capillaries also enlarge to some extent. In a part of them the current of the blood continues normal, in another part it is retarded, while in the remainder there is complete stasis. Where the blood is only retarded in the capillaries the white corpuscles penetrate their walls as in the case of the veins, and in addition a few of the red corpuscles also follow the same course. Within twenty-four hours the whole field of observation becomes opaque, the once transparent mesentery being infiltrated, as it were, with pus corpuscles which gradually make their appearance on its surface tbrough the canals of the connecting tissue, still keeping up their amœboid movements, and with the inflammatory preducts making the ordinary purulent deposit of serous inflammation.

Cohnheim experimented not only on frogs, but also on rabbits and cats as well, and with like results. Koster, Volkmann, Hering and others have pursued the same line of investigation as Cohnheim, and altogether they appear to have established that in all suppuration the entire product of pus corpuscles are but the migrated white corpuscles of the blood, and this, whether the pus is formed in an abscess, on serous surfaces, or on mucous membranes.

In answer to the query that every one is doubtlessly about to make as to how the large amount of pus corpuscles in extensive suppurating surfaces can be furnished by the blood when that fluid contains but a small percentage of this morphological element, it is answered that in acute inflammation the lymphatic glands and spleen become hyperæmic and very active, and afford a large and rapid supply of colorless corpuscles to the general circulation.

Associated with these pathological investigations there are some edifying observations on the transformation of white into red blood corpuscles; of the power of certain drugs to arrest the amœboid movements of protoplasmatic tissues and apparently destroy their vitality; of the con-

dition and continued vitality of eryptogams, vibriones, etc., in the circulation, etc. It would be pleasant to review these affairs, but a presentation of them is not essential to the appreciation of the points we have been considering, and to write them out in understandable detail would occupy more time and space than I can command at present.

I will, therefore, close this paper by reminding the reader that when he reflects that pus confined may undergo the caseous transformation like any other pathological new formation, and thus become the excitor of tubercules, he will be ready to admit that there is a proper pertinency in contemplating the new views in relation to both tubercle and suppuration in the same connection.

NOTE.—The experiments and observations in regard to tubercle and pus are published in detail in recent foreign medical journals, German and British, and a summary of them in Ranking's *Abstract* and the *American Journal of Medical Sciences* for the current year, and in the *Medical Record* of July 15, 1868.

Granulations.—BY PROF. SEELY.

Treatment.—Few diseases have undergone so many changes in their treatment as granulations of the conjunctiva; innumerable remedies, which have been most highly recommended, have soon been superseded by others.

We entirely agree with Stromeyer's (maximen des treegs huilgrude), opinion in opposition to that of a great number of other practitioners, that it is more dangerous to destroy the granulations than to leave the disease to itself. We should follow the course which nature indicates; a certain amount of vascularity and purulence of the mucous membrane is necessary to cause the neoplastic tissue deposited in this membrane to disappear. We propose then to excite, or to maintain by repeated cauterizations a certain amount of turgescence in the mucous membrane, the intensity of which shall be in proportion to the mass of neoplastic tissues.

This view of regarding the treament shows that it must be varied in the different cases of chronic granulations. As we have already shown while speaking of acute granulations, we often see a state of purulence arise spontaneously in the granulated conjunctiva, and, causing the mor-

bid production to disappear, leave the conjunctiva entirely healthy. In other persons the purulent conjunctivitis, which arises during an attack of granulations, may be so severe that it is necessary to use cold compresses, or cauterizations with mitigated nitrate of silver *or a solution of pure nitrate of silver (grs. x to aquae ʒi), to overcome the excess of purulence.

In the third, and most numerous class of cases, the inflammation which accompanies the deposit of granulations in the conjunctiva is far from being sufficient to cause the absorption of the morbid tissue. Then an irritating treatment, consisting of repeated cauterizations should be employed. The great difficulty is that the granulations are intimately connected with the conjunctival tissue, that it is absolutely impossible to destroy them by cauterizations, without converting a portion of the mucous membrane into cicatricial tissues. The caustics which succeed best in exciting a vascularity capable of absorbing the granulations are acetate of lead, sulphate of copper, and nitrate of silver; the acids, such as dilute nitric, citric. Chromic, as well as alcohol, also produce a vascularity of the mucous membrane, but it is difficult to restrain their action, and, very frequently, if they do not act very strongly, their effect is soon lost. Metallic caustics in general, have the great advantage of being more easily controlled. Before entering upon the details of the application of caustics, we think it necessary to follow the advice of Arlt on the treatment of trachoma to relieve the *morale* of the patient.

In the majority of cases patients don't come for advice until the granulations are far advanced, till the vision is more or less affected by pannus and forces them to seek aid. In an other class of cases the patients have undergone a great many kinds of treatment, and have been relieved for a time—but repeated relapses have compelled them to abandon this and that treatment, and are discouraged and disgusted. We must impress upon the patient the fact that much perseverance will be necessary for a cure, and they must not despair on account of the almost inevitable relapses. A second point of the highest importance is to place the patient in favorable hygenic circumstances, to surround him with as much pure air as possible. He should walk as much as the state of his health and the weather will permit; should avoid, as far as possible, currents of air, smoke, ammoniacal exhalations, (urine, excrements), finally, the too strong light. By relieving the low morale of the patient, which interferes with his nutritive functions, and by placing him in good hygienic circumstances, we will have taken an important curative step.

* He means, here, touching the granulations with a stick prepared according to Desmarres composed of equal parts of nitrate of silver and potash.

When the granulated conjunctiva is only a little vascularized, and we are obliged to increase the swelling of the mucous membrane, we make use in the first place of the crystal of sulphate of copper; touching the granulated conjunctiva in its whole extent with a crystal nicely managed, so as not to injure the mucous membrane by its roughness. To reach the cul de sac we invert the lid and pass the crystal between the cartilage and the eye-ball. The patient then bathes the eyes with cold water to relieve the pain that always accompanies the first cauterizations. It is remarkable how soon most of patients become accustomed to these cauterizations that are so painful at first. The all important question is how often the cauterizations shall be repeated. A grand mistake is often made by repeating them too often—they should not be resumed until all the irritation has disappeared. It is even necessary that there should be an interval of entire freedom from pain and secretion between the cauterizations. We must repeat the cauterizations every day, or every two or three days, according to the necessities of each case; we must above all things avoid over stimulation by too oft-repeated cauterizations, as it is far better in this disease to do too little than too much.

If very severe pains accompany the relapse, we must resort to prolonged applications of cold. In the treatment of chronic granulations, which requires as much patience on the part of the patient as physician, the important rule to be observed is to vary the treatment. A fact that one has only too often occasion to observe is that after the caustics have been used some time they seem to lose their effect on the granulated conjunctiva. The cauterizations thus excite but little reaction, are but little painful, and shortly after them the condition of the diseased mucous membrane is the same as before the application of the caustic. To vary the treatment, after using the sulphate of copper, change to the nitrate of silver or sugar of lead. The solution of the nitrate of silver (grs. x to aqua ʒj) will be especially indicated when there is a quite marked elevation of the papillæ, or when we have *mixed or diffuse granulations*, or when a state of purulence has shown itself, cauterization with a solution of the nitrate of silver (or if the swelling of the mucous membrane is considerable, with the compound stick) soon overcomes the excess of inflammation, and leaves a sufficient amount of vascularity for the spontaneous absorption of the granulations.

If there is less hyperamia about the mixed, or diffuse granulations, if uite a thick layer of epithelium covers them, giving them their characteristic brownish red color with its shade of gray, and if the muco-purulent secretion is slight, we prefer cauterization with the sub-acetate of lead (equal parts of lead and water). This is applied upon the inverted

lids, left on a few moments, then the eyes washed with pure water. The cauterizations are repeated every day, or every two days. A thin layer of lead then covers the mucous-membrane and becomes quite easily eliminated, without causing the patient much pain; the morbid secretion soon diminishes considerably.

What is our course where there is a complication in the part of the cornea, where a pannus forms? Usually we pay no attention to it, for every pannus due to a simple rubbing of the granulations or cilia upon the cornea, will disappear as soon as the exciting cause is removed.

When the pannus is due to the morbid production of the granulations upon the cornea itself, we still restrict ourselves to the treatment of the diseased mucous membrane, and after the disappearance of the granulations we soon see it return to its normal state; it clears up, and the grayish opacities, as well as the vessels generally, disappear.

The changes in the convexity of the cornea are beyond direct treatment, After the granulations are cured, we can, by displacing the pupil toward a less conical portion of the cornea, by an operation, relieve the abnormal refraction of the light caused by the corneal conicity. This displacement of the pupil is brought about by the operation of iridesis, (a small puncture is made at the sclero-corneal junction, into which the iris prolapses, and is tied, to prevent a retraction.)

If the pannus continues, even after the granulations are cured, an attempt to clear up the cornea by the following means, introducing every two, three, four or five days, the yellow precipitate ointment. The manner in which it is tolerated will show whether we must fear relapses. Warm compresses applied two or three times during the day, will naturally aid the action of the ointment. Division of the vessels of the pannus will not be made, except when the subconjunctival vessels are seen moving over on this membrane. This division of the vessels is made by raising up a fold of the conjunctiva that contains a portion of them and cutting it with a coopers scissors. This division may be made in two or three different places at a time; but we are entirely opposed to chief incisions extending entirely around the cornea, so highly recommended, but are far from being harmless to this membrane, with whose nutrition it particularly interferes with. In this proscription we do not include the practice of cutting the conjunctiva, which gives such excellent results in the treatment of extensive superficient pannusis.

There are kinds of pannus resulting from a prolonged rubbing of the lids upon the cornea, in which a sort of callus is formed upon this membrane in the shape of a longitudinal band over that part upon which the rubbing of the borders of the lids was most severe. This callus will not

disappear, as it resists all treatment; for it seems that the tissues of this portion of the cornea is transformed into a quite dense cicatricial tissue.

Patients are often less sensible of the presence of a small corneal cicatrix than to the drooping of the upper lid, following a deposit of granulations; the disagreeable effect of this is still more apparent when only one eye is affected. To relieve it, the patient may be advised to bandage the sound eye, and practice raising the upper lid.

If ulcers on the cornea occur during an attack of granulations, they must be treated as indicated for similar complications in purulent ophthalmia. (The eye must be examined carefully, so all unnecessary traction of the lids, or pressure upon the eyeball will be avoided; instillation of atropin five or six times a day applied will diminish the intra-ocular pressure, by the paralysis (principally) of the intrinsic muscles. If the ulcer is deep, and a perforation is inevitable, it is better to make a paraceutesis and allow the agueous humor to escape gradually.) (The bandage in such cases should never be omitted.—*Trans.*) In such cases a quite marked state of purulence usually exists; cauterization is employed, but only on the *cul de sacs*, often upon upper ones. At the same time the conjunctiva must be cauterized upon the points where the excess of the swelling of the papillæ is most manifested, and after considerable depletion has followed, cold compresses must be applied for some time, to facilitate the eluvination of the eschar. At the same time atropives must be employed to diminish the tension of the cornea. The scarifications should not be employed except in the places where the swelling of the papillae is very manifested, or where there are mixed or diffuse granulations, with quite marked puffiness of the conjunctiva. In such cases the scarifications combat effectually and rapidly the excess of inflammation that accompanies the depositof morbid tissue in the mucous membrane.

We think it absurd to wish to make this a general method for treating granulations; for what good could result from scarifying a conjunctiva covered with granulations, but pale and but little inflamed?

Scarifications in such cases with nitrate of silver, or sulphate of copper, would only facilitate a deep penetration of the caustic into the tissues of the membrane, and give rise to the formation of the cicatrices.

We oppose the excision of granulations, a process applicable to but few exceptional cases. If their development has become so abundant that there are formed upon the mucous membrane, at different points, semitransparent gelatinous masses, polypi on the conjunctiva, they can be excised with a cooper's scissors. The excision ought always to be confined strictly to the morbid tissues, and not extend to too great depth. The

excising a healthy portion of the mucous membrane, ought, above all things to be avoided.

Cauterizations with strong caustics, such as the pure nitrate of silver, nitric acid, chromic acid, etc., are to be entirely rejected, as they can not be employed without causing cicatrices. It is true we will succeed so in destroying the granulations, but at the same time a large number of cicatrices will be formed that will keep the eye in a continual state of irritation, rendering every normal function impossible.

The application of the acetate of lead, in powder, upon the mucous membrane has been frequently recommended, and is still used, especially in Belgium.—*(Buys.)* This substance gradually forms a metallic layer, that causes the granulations. When they are in this state, the patients are regarded, if not cured, at least incapable of transmitting the disease. The acetate of lead has many disadvantages; in the first place, it adheres very firmly to the mucous membrane and produces an injurious irritation upon the cornea. Now, above all things, it is necessary to avoid all complication on the part of this membrane. Besides this great inconvenience arising from the use of the acetate of lead, even after it has become well incorporated in the mucous membrane, it never prevents the production of new granulations; nor does it combat the relapses to which the granulations are so liable.

The action of this medicine is not so rapid as has been attributed to it, and does not allow us to always keep the state of the mucous membrane perfectly in sight. It is for these reasons that it has been gradually abandoned—as the advantages have been found to be small—the disadvantages large.

When the patients present themselves with cicatrices more or less extensive, with the tarsus changed in its curvature, with the border of the lid rounded and the ciliæ turned in; in a few, where there is more or less entropium, this state must be relieved by an operation. In such cases a pannus, more or less developed, is met with: the eye is continually irritated by the scratching of the lashes; the contraction of the orbicular muscle, stimulated by this irritation causes a very injurious pressure on the eyeball. A large number of operations have been devised to relieve these unfavorable conditions; removing the border of the lids; excising a fold of skin, and correcting by different operative procedures the false position of the tarsus and ciliæ. (The author abstains from enumerating here the various processes, as he considers them all under the head of entropium.)

We will mention a single process whose simplicity and ease of execution recommend it epecially for an entropium caused by granulations.

It is Pagenstecher's (as set forth in his published clinical observations, made in the eye hospital at Wiesbaden, and published also in *Annales d'Oculistique*, in March and April, 1862.) The external commissure is enlarged by an incision through the whole thickness and in the direction of what we term the external palpebral ligament, so that the wound in the conjunctiva will be from an eighth to a quarter of an inch in length, and that of the skin, from a quarter to a third. By moderate traction of the ridges of the wound, made above and below, the horizontal section is transformed into a vertical one, and it is then easy to unite the edges of the mucous membrane with those of the skin, and thus avoid the reunion of the lips of the wound. By this process the following advantages are obtained:

1st.—The breadth of the palpebral opening is increased from a twelfth to an eighth of an inch.

2d.—A slight ectropium of the above dimension is produced.

3d —By placing the mucous membrane among the fibres of the orbicular muscles, the energy of the action is diminished. Some ligatures are then inserted in the slightly everted lid, care being taken to place them where the vicious position of the lashes is most marked. For this then a fold of the loose skin, parallel with the palpebral border, including a large number of fibres of the orbicular muscle is raised up, and a needle carrying a well waxed thread pushed through the base of the fold, entering at the orbicular border and escaping at a point just without the orifices of the meibomian glands. The thread thus passed is firmly tied so as to strangulate the included part and left to come away by suppartion which will occur in from six to ten days. In the majority of cases three ligatures will produce sufficient eversion of the border of the lid. The effect of each ligature can be calculated in advance by raising up the fold through which it is to pass. The advantages claimed by Pagenstecher for this process, and which we have fully confirmed are the following:

1st.—The pressure exercised by the lids upon the eyeball is diminished by the enlargement of the palpebral opening, and by the weakening of the energy of the orbicular muscle.

2d.—The scratching of the cornea by the eyelashes is relieved.

3d.—The eyelashes are preserved, and the normal direction given them.

To appreciate fully the operation, the benefits resulting in a short time after it should be noted; viz: The favorable changes in the transparency and appearance of the cornea. To quiet the pains and combat the inflammation rdsulting from the operation, cold or iced compresses should be

applied continually for two or three days. All trace of the ligature soon dissappears.

Once the scratching of the lashes is relieved, and the pressure of the lids upon the ball diminished, the cornea quickly recovers its transparency, and the patient experiences a great relief after getting rid of the continual irritation arising from these causes. This operation, which we warmly recommend, is not necessary in all cases of diminution of the palpebral opening. In cases where this diminution is owing to a simple spasmodic action of the orbicular muscle, splitting the external commissure may suffice, the reunion of the lips being prevented by constantly pulling them apart.

When, in addition to the spasmodic action of the orbicular muscle, we have a cicatricial contraction of the conjunctiva, without any alteration in the curvature of the tarsi, it will be sufficient to cover the lips of the wound with a fold of the conjunctiva, thus reserving Pagenstecher's operation for extreme cases, where the tarsi are altered in their form and structure, and produce a pannus by their constant irritation of the cornea.

I don't think that hitherto in the treatment of granulations, sufficient attention has been paid to the variations in the length of the palpebral openings, and the dangers supervening in the relation of the lids to the eyeball. An interruption in the functions of the lachrymal puncta as a result of the changes produced by granulations must not be passed by These are either turned out of their normal direction, or narrowed by the extension of the granulations upon their walls. The consequent retention of the tears interfere with the treatment of the primary disease, the granulations; hence, it is of the highest importance to relieve it. The opening of the inferior canal will meet the case.

There are cases of well developed granulations, with but little swelling and vascularity of the mucous membrane. The conjunctiva is covered with granulations, with more or less cicatrices among them; the cornea is covered with vessels, and pannus is developed. It may then happen that the tendency to inflammatory reaction in the mucous membrane is so slight that even strong cauterizations with the sulphate of copper do not produce a vascularity of the conjunctiva, and a sufficient amount of purulence. Two methods then remain for exciting this vascularity: viz,

1st.—The application of warm water in the form of compresses.

2d.—Inoculation with matter from a case of purulent conjunctivitis, as recommended by Fred Jarger and Pininger.

Warm compresses as a means of exciting in chronic granulations, a state of purulence, very beneficial to the decomposition and absorption of the neoplastic tissues, was first pointed out by Graefe. For this pur-

pose, water of 104° to 113° Fah., and compresses, four to six double are used from eight to twelve hours a day, allowing an interval of fifteen or twenty minutes between, every two or three hours. After a sufficient degree of vascularity has been produced, and a purulent secretion becomes manifested, the application of the compresses must be discontinued, and not resumed till the vascularity again disappears. The application of warmth under this form is an excellent means—free from danger—of producing that vascularity so essential to the absorption of the neoplastic tissue deposited in the conjunctiva, and the curing of the obstinate and painful ulcers on the cornea. If the compresses fail to excite a purulent state in the mucous membrane, they at least render it more capable of a short reaction from caustics. Unfortunately, these cases, where the morbid transformation of the mucous membrane has penetrated so deep, where the cicatrization is already so far advanced that we can not succeed, even with warm compresses, in exciting the vascularity, it becomes necessary to resort to more energetic means. Fred Jarger and Pininger, (in 1851), recommended in cases where the pannus completely covers the cornea, inoculation with matter taken from a case of purulent conjunctivitis, to transform the granular conjunctivitis into the purulent, in order to cure the resulting pannus. This process has been resorted to quite frequently, and is still much in vogue in some countries (Belgium and England). It is true that a degree of purulence can be excited by inoculation with pus from an acute purulent ophthalmia, sufficient not only to cause the granulations to disappear, but the pannus as well; but, unfortunately, we are unable to control the inflammation so produced.

In countries where diphtheria prevails, or during an epidemic of it, the inflammation following inoculation may assume diphtheritic characteristics, and be fatal to the eye we wished to relieve of a less dangerous disease. Inoculation must not be resorted to except when the pannus entirely covers the cornea.

It is remarkable that complications on the part of the cornea do not arise when a complete net-work of vessels covers this membrane; then the purulent state of the mucous membrane leaves it intact. When the pannus is incomplete, and a part of the cornea is wanting in vessels, the purulent ophthalmia, the result of inoculation, is attained with the usual dangers of that disease.

Inoculation must be avoided when only one eye is attacked with pannus, as it is very difficult to protect the sound eye from spontaneous inoculation, as it is impossible to keep on the compression bandages, to protect it, for weeks.

Little effect is produced by treatment when cicatrization is far advanced, and a dryness of the mucous membrane present. We must be content with washing the eyes frequently with milk, ordering the use of warm compresses from two to three times, to excite a little vascularity, and, at frequent intervals, for this purpose, to cauterize the mucous membrane with the sulphate of copper.

Unfortunately, we are entirely unable to cure the disease, for the constant fretting of the cicatrices, and the dryness of the eyes are an inexhaustable source of torment to the patient. The pain must be lessened by Pangenstecher's operation, relieving, at least the pressure made upon the eyeball by the deformed lids, and removing the scratching of the lashes upon the cornea, affected with pannus, or presenting a callous appearance.

After having pointed out the various local treatments, the question of internal medication must be considered. We have already said we did not regard granulations the expression of a scrofulous, arthritic, or syphilitic diathesis; however, we do not wish to induce practitioners to neglect the general treatment, but we advise them to give special attention to those things that distinctly concern the affected organs.

Who will deny that the different states of anæmia, hyperæmia and cachexia are not chiefly recognized by the influence they exercise over the mucous membranes? Those of the intestines and air passages afford us daily examples. The same is true of the conjunctiva, upon which, not only are the same effects to be seen, but it is besides subject to atmospheric and hygrometric influences. We do not think that affections of the mucous membrane could be properly treated without constitutional treatment, and we are convinced that relieving the general troubles exercises a favorable influence on the progress of the disease.

Under this conviction we combat scrofula, tubercular symptoms syphilis, whenever they present, and above all things try to put the patients in good hygienic conditions. Along with the general improvement of the general system of the patient, we see the ocular trouble, under the influence of direct treatment, take a favorable turn and proceed rapidly towards a cure. We often observe that the removal of patients to another country, under another climate, exercises a happy influence upon the diseased conjunctiva without one being able to understand how. This is a fact learned in practice.

An important question still remains: Ought those affected with granulations to be allowed to remain in a family? Ought soldiers affected with chronic granulations to be furloughed? Ought children to be allowed to go home from boarding schools? Ought an establishment

where this disease has become endemic to be abandoned? We have already said chronic granulations—trachoma—were inoculable. They are the less so the less the secretion; so chronic granulations in which there is no inflammation, the mucous membrane being almost dry, may be pronounced not at all inoculable. In such cases as the last there are no objections to discharging the patients, if they are soldiers, or of allowing children to go home from boarding schools. Yet there is an important point not to be overlooked; patients may have at a certain time, a granulated conjunctiva not capable of causing inoculation, but become suddenly changed, taking on an active inflammation, either spontaneously or as a result of a new deposit of granulations, with a purulent secretion, and so become dangerous to those about them. Hence the dangers to be feared from giving soldiers leave of absence to breathe the pure air of the country, and enjoy better hygienic advantages, as they may not only inoculate their own family, but the whole neighborhood.

If this is true in soldiers, how much more striking is it in the case of children and young people, in whom the tendency to the transformation of the trachoma into purulent conjunctivitis is so much stronger than in adults.

Thus then are the reasons confirmed by daily experience why we feel compelled to advise, as far as possible, the separation of persons affected with granulations from sound ones. A second question, difficult to dispose of, is whether a large number of granulated persons should be kept in the same room as is done. for example, in Belgium? It is certain that soldiers affected with granulations should be kept together to avoid the spread of the disease, but there is no doubt that the assembling a large number of granulated persons in a room render the treatment less effective, and gives rise to relapse. In civil practice it will be better to separate persons as far as it is possible to do so, having as few as possible in the same room.

We will have better results, especially in clinics and hospitals, by isolating those affected with granulations.

I have deviated considerably from my original design, in that I have given quite a *literal* instead of *liberal* translation of the article just completed. It was an important epoch in the history of "Granulations" when their true character was discovered, and I have thought that a little effort to make that character known to those who were unable to read it in its foreign garb would not pass unappreciated. No one will fail to recognize the firm basis on which the pathology, diagnosis and treatment

of this so frequent, dangerous and tedious disease now rests. We are no longer at liberty to call any eye-lid roughened by inflammation, "granulated." Pathology has taught us that there are two distinct kinds of roughened conjunctivæ, and has established the widest difference between the two. In the one, there is simply an enlargement of the papillæ of the mucous membrane; in the other, in addition to this swelling of the papillæ, there are produced other enlargements composed of a neoplastic tissue—a tissue of new formation.

It is the latter state only which is now called trachoma or granulations. The treatment of granulations has thrown not a little odium on the treatment of eye troubles in general, and will continue to do so till their nature and treatment, as just exposed, are thoroughly recognized and followed. Wecker deserves the greatest credit for the clearness with which he has laid down the distinctions between the various inflammations of the conjunctiva, and especially those that separate granulations, from the other forms; for the stress laid upon the characteristic mark—the neoplastic deposit; and for second in importance, the rules to be observed in the treatment, the one I call special attention to is, of there being in such cases a certain amount of *salutary* inflammation, and hence, "not to do too much."

That "it must be born in mind that granulations constitute a disease which, when the inflammation is severe compared with the neoplastic deposit, is cured without any therapeutic agent." That "to abstain from any excess of therapeutic zeal and to bear in mind that the inflammation which accompanies acute granulations has a greater curative power than any means art can apply," are words that won't soon be forgotten when once their full value is known.

CORRESPONDENCE.

Letter from Europe.

PRAGUE, AUSTRIA, AUG. 18, 1868.

DEAR EDITOR:—More than five hundred years ago Charles IV. laid the foundations of the old University that still bears his name *The Carolinum*, in the quaint and ancient city of Prague. Venerable with age, it still rears its massy blackened walls a monument to science, which is yet daily inculcated therein. For more than half a thousand years and throughout all the revolutions and convulsions which have agitated this curious old place, subjecting it by turns to the dominion of the savage and the civilized of all Europe, it has still been the cradle of knowledge, which it continues to be to-day. Within sight of the hills upon which the ancient Pagans celebrated their fire-worship, not far from the Jewish graveyard with tombstones whose inscriptions date back to the year 600, close by the old stone bridge that spans the Moldau, the scene of many a bloody slaughter, it shrouds within its walls all the mystery and fascination connected with the teachings of astrology and alchemy from the faintest glimmerings of struggling light, to the broad clear noon-day of modern science, to which it helped to contribute. At one time one of the principle centers of instruction in Europe, it numbered forty thousand students; subsequently owing to an abridgement of the privilege of the foreign students by the renowned reformer, John Huss its presiding officer, some fifteen thousand left and established the Universities of Leipsic, Heidelburg and Cracow, either of which at present enjoys a higher reputation than the mother school. Still in memory of her departed glory as a consecrated shrine to advancing civilization, one approaches her precincts almost with a feeling of awe, and experiences the force of the injunction, if the expression may be used without a feeling of sacrilege, to remove the shoes as one stands on holy ground.

As a school for medicine it was soon found necessary for practical instruction, to connect it with the hospitals; hence at present the system is similar to ours at home, didactic lectures at the University, daily clinics in the hospital.

The institutions of the larger cities of Berlin and Vienna present so many additional attractions to the foreign students by reason of the greater

fame of the teachers, abundance of material &c., that it is only during the intervals of instruction in these schools Prague is visited by this class: as an inducement thereto, special courses are formed, one in spring, of four weeks, and one in summer of six weeks, Foreigners' Courses, soc alled, and every advantage is afforded for the prosecution of practical study. Aside from obstetrics these are not great, but in this department the opportunities are scarcely excelled in Europe. The number of births at present, average three per day, in fall and winter they amount to five or six. Even less regard is paid here, in South Germany, to that quality which is known among us as female delicacy. Every approaching birth is announced by a bell to the students who are quartered across the street, in our case by a tap on the door, as we were fortunate enough to secure rooms in the Lying-in Hospital itself. A vertex presentation, one tap, breech, two, a very interesting case, as a presentation of the trunk or any operative procedure, three. Examination by touch ad libitum at any hour of the day or night. A few days ago a rather unusual presentation was "touchered" by some sixty students, the cries of the poor patient during this prolonged torture were actually heart-rending.

Professor Seyfert is the present director; Kiwisch, Lange, and Scanzoni have each served an apprenticeship here. The present incumbent has scarcely a claim to respect either in appearance or address. The truly vast experience which a long service as assistant and Professor have given him, have rendered him dogmatical and abusive. His lectures are generally tirades of invectives against all the eminent of Germany, particularly Scanzoni. His system is to use Scanzoni's works as a text from which to diametrically differ. The subject of our last lecture for instance was the indications for the use of the Forceps. Scanzoni's work was opened at that place, and nearly every indication of the author was deliberately rejected one by one, Then arising from his seat with an air of triumph and a gesture of contempt that was truly Podsnappian, he announced that he had now shown us when to use the forceps and when not. Sometimes his criticisms carry him completely beyond the bounds of ridicule. While on the subject of Cancer of the Uterus, after reading from Scanzoni on the Etiology of the disease that it was due apparently not so much to the frequency of coition as to the height which its *acme* attained, and the consequent increased congestion, he, Seyfert, suggested to the class that in accordance with that doctrine the female should always carry a thermometer in the axilla and regulate the grade.

Some of his doctrines are very peculiar.

1. Puerperal fever is always due to anæmia, the normal condition

of all pregnancy, the blood becomes degenerated, a pyæmia or septicæmia is established and childbed fever ensues.

2. The so called divisions of puerperal fever into diphtheritic,&c., do not exist.

3. All such terms as metritis, acute and chronic endo-metritis, parametritis &c., are useless because there are no conditions to justify them; with amenorrhea, dysmenorrhea, &c., they are rejected from the nosology without substitution.

4. The so-called cancroid of the os uteri also has no existence, as a tumor is either cancer or not cancer; as a pathognomonic means of diagnosis, break off a piece of the tumor with the nail of the examining finger and examine with the microscope. In many cases the microscope is not necessary, as the ability to detach a portion is sufficient to declare its malignity.

5. The best mode of inducing an abortion in the early stages of pregnancy when the life of the mother requires it, is by the introduction of the uterine sound.

6. A contracted pelvis is a positive contra-indication for the forceps; either time sufficient for perfect configuration must be allowed, in which power he expresses great confidence, or if the birth must terminate rapidly, perforation or cephalotripsy are the only resorts.

.7 All attempted changes of position of the head either by the hand or forceps are strictly countermanded, as the expulsive powers are generally sufficient to configurate and adapt.

The list might be considerably prolonged, but the probability is enough has been given to evidence the fact that one must come prepared to forget temporarily all the pathology of early instruction, in short to sit at a table of different diet, and feed upon the meat with which this our Cæsar feeds. For all this the school has many advantages, aside from the opportunities of personal examination granted to each student. The Prof. is eminently a practical man, and whatever theories he may inculcate, they are not permitted to endanger the life of his patient,

The support of the perineum is developed into a science by the hebammes or midwives, who also have a school of instruction here, consequently ruptures are at a minimum. The slightest tear is immediately united with the silk suture. Quot homines, tot sententiæ, this is true of the forceps, the speculum, the presentations and positions, the diameters of the pelvis and fœtus, and many minor points prove that great minds posses originality by not running in the same channel. The speculum in general use is the old Ricord bivalve, the forceps a *slight* modification of the Ger-

man form. The differences in the measurements are of course but trifling.

To the course of lectures delivered by Dr. Saexinger, the first assistant, on operative obstetrics and the manipulation of instruments on the manikin with a dead fœtus, is much of the celebrity of the vacation session due. Preceding his course with several preliminary explanatory lectures systematically arranged, and, what is rarer in Germany, beautifully delivered, he enters upon the thoroughly practical course of operations affording to each student the opportunity of the various applications of the forceps, cephalotribe, &c.

A very excellent course on diseases of children, in the Childrens Hospital, is also delivered during this course, by Dr. Ritter; this course with those of obstetrics proper, gynæcology and operative obstetricy constitute the series, though there are also several minor courses on physical diagnosis and operative surgery available. The fee for the regular course amounts to thirty dollars.

An interesting feature connected with the Lying-in Hospital is the private department, after the style of the Viennese, for the reception of the better class. The utmost secrecy is observed throughout, patients may enter and remain veiled during their entire stay. Even the physician is not summoned unless his presence is necessary, the midwives conducting the birth. The presence of an inmate of this department can not be established in a court of justice. The children are taken by the parent or sent to the foundling Institute as designated by the parent. If boys they become soldiers, if girls nurses. The payment of a certain sum will secure their reclamation at the end of ten years. The prices are regulated according to grades, 1st, 2d, and 3d, ranging from $25 to $125.

The ostensible justification is the prevention of infanticide, but as the foundling institute like all of its class, by reason of their fearful mortality, is but little better than a slaughter house, this loses force.

Among the students in attendance, some seventy-five in number, are two female physicians from England and one from Russia with her husband. The females evince as much eagerness at the examinations and display as much curiosity at the post-mortems as the most virile members of the class. To one whose ideas of woman's sphere are based on the chastity and modesty which characterize the sex at home, you can readily conceive that such an exhibition is simply disgusting.

CAUL.

LETTER FROM PHILADELPHIA.

PHILADELPHIA, September 12, 1868.

MY DEAR JOURNAL: We are once more in the midst of medical activity, that is, the colleges are again opening for the winter campaign, and students from all quarters of the country are beginning to crowd into the city. They are thoroughly welcome, for indeed it seems as if their presence imparts an unusual cheerfulness to the streets.

The University began its preliminary course a few days ago (on Monday last), to a fair attendance of students, which gives good earnest of what may be expected when the regular course begins. This preliminary course is a new feature at the University, and thus far, a very popular one. Microscopy, regional anatomy, physical diagnosis, diseases of the skin, and morbid anatomy, are taught by the following persons, their names corresponding to the branches as above given, to wit: Drs. Tyson, D. Hayes Agnew, Levick, Lenox Hodge, and Wm. Pepper. Admission to this course is free. It lasts from September 7th until October 10th, when the regular course begins and continues until March, 1869.

The Jefferson College has no preliminary course, but a very able summer faculty, which commences its labors in April, and closes them after a recess (July and August), at the commencement of the winter session. In its extent it will counterbalance any advantage the University might otherwise obtain from its preliminary course. I understand that the newly elected Professor, J. Aitkin Meigs, of the Institutes of Medicine, will deliver the general introduction at the "Jeff." If so, a rare treat is *in prospectu*. By the way, the old fashion, in *our* day, Mr. Editor, of each professor delivering an introductory as a sort of "entering wedge" to the regular lectures, has been discontinued in both Colleges. If I am correctly informed, the plan now is, take it by turns, just as has been done always, in regard to valedictories—a much more sensible arrangement, though no reflection is intended on the former plan. The Jefferson school begins its regular session at the same time as does the University.

Dr. Gross (S. D. *the Great*, I must call him—for I do think him!) is still sojourning abroad. I sincerely hope he will return safely to us. All Philadelphia is gratified at the attention shown him, and honor conferred upon him abroad.

Prof. Pancoast ("old Joe," as he is lovingly and familiarly known to *all* students), has returned to us looking, what we might term *bran-new!* A brother physician told me that he saw the learned Professor a few days before on the street, and that he scarcely recognized him—that he looked some fifteen years younger. If his trip to Europe has been the means of adding that number of years to his lease on life, none will be more rejoiced than his many admirers in Philadelphia.

I was conversing with a medical brother a week or so since, and our conversation turned on the late, esteemed, lamented Dr. Gibson. My friend knew the old doctor well, and among other anecdotes told me the following of the venerable surgeon. He got it from Dr. Gibson's own lips and it well illustrates the old saying of "killing two birds with one stone." I will give it: It seems that during the Baltimore riots, years ago, Dr. G. was surgeon of a volunteer troop-company. It seems that in the midst of the troubles, when the doctor's company was going night and day and doing severe duty, the Surgeon, Dr. G., was annoyed terribly with a drunken Irishman, who pushed himself upon him and hung about him whenever he had a chance. The Irishman did not know it was Dr. Gibson, else perhaps he would have known his character too well to have so annoyed him. However, to add to the impertinencies he had already heaped upon the Surgeon, the fellow watched his opportunity when the troop, "all in hot haste," were about to gallop off, and suddenly dashing out caught the doctor by his stump. Then forbearance ceased to be a virtue, and taking the back of his sword he dealt the fellow a powerful blow, stretching him out *hors du combat*, on the pavement. A disturbance was at once inaugurated and some confusion followed. In the midst of it the doctor, whispering to a few friends that he knew he would be called to see the wounded man as Dr. Gibson and not as Surgeon of the company, silently slipped from the ranks and made for his office. Indeed, he just had time to get inside, and doff his gray regimentals, when the bell suddenly sounded—and again—and again. With a straight, sober face, the doctor demurely opened the door, when sure enough there was the wounded Irishman with a half dozen friends, all howling furiously. To make a long story short, the doctor, all the time unknown as the *perpetrator*, dressed his victim's head for which he charged him ten dollars, and which he collected from the grateful party before they left the house!

The health report of last week shows a decrease of about fifty compared to that of the week before. Consumption still looms up largely in its fatal results. Cholera infantum, dysentery, diarrhœa and heart di-

sease were also well represented, We have had no cholera here this season, that is, not a single case has been reported; we all expected it, though I am compelled to say no sanitary measures were taken in regard to its anticipated approach. The rains, those heavenly scavengers, bringing us health and happiness and cleanliness, have been our only friends and protectors in this particular, and all of us should be very grateful for them.

The Quizzes are looking up. You have no idea, Mr. Editor, how *they* have developed in the last few years. They are now real institutions—not mere stuffing rooms, but schools of medicine—in miniature, it is true—but where medicine in all its branches is well taught. Quizzes are not what they once were—a place for teaching young men to say "pretty poll! pretty poll!"

The last new books coming under my observation are a work on CONSERVATIVE SURGERY, etc., by Dr. A. G. Walter, and a French Essay on the EMPLOYMENT of PHOSPHORUS in the TREATMENT of LOCOMOTOR-ATAXIA-PROGRESSIVE, by a Dr. Dujardui Beaumetz. I have not read either closely, but both, especially the latter, have been highly spoken of.

Did you ever hear of the "calomel bath," Mr. Editor? In the August number of the *Reporter* of this city I see that Mr. Henry Lee has decided "that the irritating agent which is given off from the calomel bath, especially when this is freely used, is nothing more or less than hydrochloric acid. The effect of this acid is negatived by the use of a tray of water surrounding the pan which contains the calomel, so as to assure its dilution."

I see by the papers that the new medical law in Ohio goes into operation soon. Does that law, Dear JOURNAL, recognize Homœopaths, Electopaths, *et id omne*, etc., as *regulars?* If so, the law is not worth much.

The Philadelphia *Medical Register* and *Directory*, edited by Dr. Packard, and published by that veteran printer, Collins, has just come out. It is a full work of its kind and contains a good deal of valuable information—but *to whom?* The book sells for $2.00! *Mirabile dictu!* A considerable number of its pages are given to advertisements which make it resemble a journal of medicine more than anything else. The little book treats of, (I) MEDICAL ASSOCIATIONS, of which there are in Philadelphia ten. (II.) MEDICAL SCHOOLS and KINDRED INSTITUTIONS, of which there are also ten (embracing the sub-school in College Avenue.) (III.) HOSPITALS, of which there are seventeen. (IV.) DIS-

PENSARIES, of which there are seven. (V.) CHARITABLE INSTITUTIONS, numbering thirty-eight. (VI.) MISCELLANEOUS MATTERS, including Board of Health, nurses, leechers, etc. (VII.) DIRECTORY OF PHYSICIANS, containing the names of over 700 doctors—whether they are all regulars I can not determine. I opine not, though it was Dr. Packard's intention that none others should be published.

The cattle disease has given us a scare here too and our Council promptly appointed two examiners—one medical gentleman and one civilian—both men of large experience and scientific, and *common-sense* judgment. We eat our meat, that they pass, without fear. I see by a newspaper contemporary that the first symptoms of the disease are an appearance of languor and weariness, which is unmistakable; the head drops, the ears hang down, the eyes are staring, the back is arched, strong efforts are made to dung, which are often ineffectual, the dripping being usually scanty, dry, and stained with blood. The urine is generally dark brown in color, and commonly called, "black water." The coat is generally rough, the hairs standing almost erect; the horns are hot, the nose dry, a frothy saliva flows from the mouth; flies settle in great numbers and the animal rarely makes an effort to brush them off." After speaking of the means by which the diseased meat can be recognized, the article, (from the Philadelphia *Ledger*), goes on to state "that the remedy suggested for the cattle disease is carbolic acid * * * put into the water (for drinking), in proportion of one part pure acid with thrice its own weight of sal. soda to one thousand part of water." The article in the *Ledger* is taken from the report of commissioners appointed by the Governor of New York.

I see by the foreign papers that the celebrated Swiss Chemist (though a Wurtemberger by birth), Christian Schönbein, is dead. It was Schönbin who in 1839 or 1840 discovered ozone, and in 1859 "antozone." In 1845 he invented gun cotton. He was a most learned man and he has built his own monument, in every library, and in every student's heart in the world.

The Convention of the American Pharmaceutical Association has just closed its sittings here. Many interesting papers were presented, especially those of Prof. Squib, on hydrochloric and carbolic acids. I copy the following from their proceedings:

"Whereas, The East River Medical Association of New York, through its Secretary, has submitted a preamble and series of resolutions regarding the renewal of physicians' prescriptions without due authority for such renewal, for our consideration: and whereas, the discussion of this important subject has called forth a free expression of opinion from our members; therefore

"Resolved, That this Association regards the pharmaceutist as the proper custodian and owner of the physician's prescriptions, once deposited.

"Resolved, That however desirous we may be to accede to the request of the East River Medical Association, the restriction of the pharmaceutist to a single dispensing of a prescription without the written authority of the prescribing physician for its renewal, is neither practicable nor within the province of this Association. Nevertheless we regard the indiscriminate renewal of prescriptions, especially when intended for the use of others than those for whom they were prescribed, as neither just to the physician nor to the patient, between whom we stand as conservators of the interest of both, and that such abuses should be discouraged by all proper means.

"On motion the resolutions were adopted and the committee discharged by a unanimous vote.

This decision, I am warranted in saying, will not be well received by Philadelphia physicians. And I am convinced that the course pursued by the druggists, in this particular, will *force* physicians back to the old plan, namely: keeping their own medicine. Under the circumstances this would be evidently just.

The weather is again excessively warm, dear JOURNAL, the thermometer ranging nearly up to the nineties again. Can we not hope that this is the last *spell* of the season? I have other items, but will not trespass on your pages further.

With well wishes, Yours Truly,

WM. MASON TURNER, M. D.

1428 North Seventh street.

P. S. Since the above was written I have gathered one or two medical items which may be of interest:

Dr. J. Aitken Meigs, the lately elected Prof. of "Institutes" in the Jefferson College, was on the seventh of this month elected one of the physicians to the Pennsylvania Hospital. The action of the Board in selecting a gentleman of such standing, both in and out of his profession, has been universally indorsed.

Dr. Edward Rhoads has of late been elected to the Chair of Physical Diagnosis in the Preliminary Course Faculty of the University. Dr. Rhoads is one of the visiting physicians to the Philadelphia Hospital.

I learn now definitely, that Prof. Pancoast, "Old Joe," will deliver the general introductionary at the Jefferson, and not Prof. Aitken Meigs. We can well look forward to a "feast of reason."

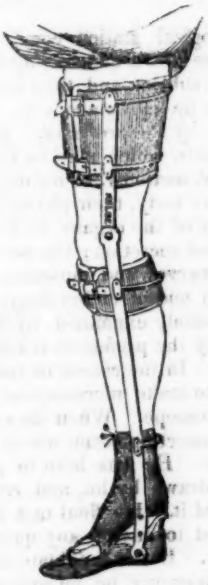
Mr. Kolbè, the instrument maker, has kindly loaned me the electrotype of his apparatus for shortened leg. I forward it by this mail and hope it will arrive safely. This apparatus* is intended, in Mr. Kolbè's own words, "to supply the deficiency of a shortened limb, caused by hip-joint disease, resection, etc., and to obviate the awkward appearance in walking—the use of a high cork shoe, which is more or less dangerous, in causing sprain of the ankle-joint. A boot or laced shoe is worn over the natural and artificial foot, which entirely conceals the deformity. When the patient has sufficient control over his knee-joint, no support is needed above the knee." I hope you will give the cut a place as I am sure the apparatus will interest your medical men. Should any of these appliances then be needed, Mr. K. will furnish the guides for measurement.

The weather is now more like winter than fall—and we have catarrhs, *et id omne genus*, to surfeiting.

Au revoir, Yours, etc., W. M. T.

September 21, 1868.

*This is the apparatus referred to.



MISCELLANY

Medical Education in Germany.

[The subjoined is an extract from an article with the above caption in the *Times and Gazette*, September 5th.]

The examination which entitles an M. D. to practice is indeed a severe test of a man's knowledge, the shortest time in which it can possibly be passed being about three months. It is conducted on the same plan throughout the country by examining boards annually chosen by the Government, which hold their sittings in each university town. The members of these boards are partly selected from amongst the teachers of the university and partly from practitioners of renown in the neighborhood.

The examination is divided into five different parts—"Stationen"—viz:

1. The anatomico-physiological station.
2. The internal or medical.
3. The external or surgical.
4. The obstetrical.
5. The final.

The anatomico-physiological station commences with the candidate drawing from an urn before him a question upon some anatomical, physiological, and microscopical subject, and then treating at large upon the same, and showing all that he knows about it. After this he is submitted to a *viva voce* examination by the professor. The question may be upon any of the following subjects, which may be treated either with especial reference to the physiology, anatomy, or histological structure.

The tissues of the human body, their physiological and microscopical properties; the physiology of the organs of circulation, respiration, and digestion; of absorption and secretion; the nervous system and the experimental physiology of nerves and muscles; of movements; of voice and speech; of the senses; and of embryology, etc.

The candidate is alternately examined by different members of the board, these being generally the professors teaching anatomy, physiology, and comparative anatomy. In the course of the examination it may be required of the candidate to make microscopical sections and to demonstrate them under the microscope. When the examiners are satisfied, the candidate is taken to the dissecting room, where a separate compartment is reserved for this purpose. He has here to perform a dissection, the subject of which he again draws by lot, and remains locked up in the room until he has completed it. His final task is to demonstrate the dissection to the examiner, and to answer any question which may arise in connection with the subject. If the candidate fail to pass, he has to wait until the next session; if, however, he be successful he is permitted to enter the internal station. Here the examination is likewise conducted by two examiners on two different days, by each of whom the candidate

is examined practically upon patients in a ward set apart for the purpose, and he is subsequently required to write a detailed account of these cases from a scientific and practical point of view—a task which he has to perform in a separate apartment, without reference to books or notes. After this he meets one of the examiners every day in the ward, and is required to examine different patients, to make the diagnosis, and to continue the treatment of those cases which he has previously examined. If any chance to die, he has to make the post mortem, and to demonstrate the pathological changes. He is at the same time examined in materia medica, including the therapeutical value of different spas and climates. This lasts for a fortnight, and at its close the candidate enters the external or surgical station. Here the examination is conducted in a similar manner, but, in addition, on one day the candidate is examined on surgical instruments, appliances, and dressing, and on another day upon fractures and dislocations, whilst the last day is devoted to the performance of operations on the dead body.

The obstetrical station is next entered. It is necessary that he should, during his studentship, have conducted at least three labors under the immediate superintendence of the professor or his assistant. The examination in this station commences by the candidate conducting a labor in the presence of the examiner, and attending to the case as long as may be necessary. He likewise meets the examiner in the wards, and is practically examined in the diseases of women and children. One day is again devoted to the determination of the stage of pregnancy amongst a number of pregnant women; whilst upon another day most of the important obstetrical operations are performed upon a dummy. In the last or final examination, questions on medicine and surgery are again put, if deemed necessary; but there are likewise questions on State medicine, hygiene, and those branches of natural philosophy which have an immediate bearing upon medicine.

Having succeeded in passing through this prolonged and searching ordeal, the candidate is admitted into the ranks of the profession. The fee for the whole examination required by the State is about ten guineas.

Meteorological Reports from the Indianapolis Academy of Medicine. By W. J. Elstun, M. D., Metorological Committee.

Report from the Barometer, Thermometer, and Hygrometer, for the year ending August 31st, 1868, showing Highest and Lowest Daily Mean, Mean for each Month, Mean for each Season, and Mean for the Year. Also the Mean Oscillation of Temperature between 7 A. M. and 2 P. M. for the Spring and Summer Months.

	Autumn, 1867.				Winter, 1867—8.				Spring, 1868.				Summer, 1868.				Y'RLY
	SEPT.	OCT.	NOV.	MEAN.	DEC.	JAN.	FEB.	MEAN.	MAR.	APRIL	MAY.	MEAN.	JUNE.	JULY.	AUG.		MEAN.
Bar., reduced to freezing point.....Min.	29.17	28.91	28.78		28.95	28.81	29.05		28.59	28.55	28.83		29.02	29.05	29.04		
" " " .....Max.	29.47	29.72	29.69		29.73	29.91	29.79		29.65	29.56	29.34		29.48	29.38	29.53		
" " " ....Mean	29.35	29.36	29.29	29.33	29.29	29.32	29.43	29.33	29.24	29.23	29.14	29.20	29.30	29.26	29.29	29.29	29.29
Temperature, (Fahrenheit).....Min.	48.7	34.0	11.6		13	.5	8.2		19.7	28.3	47.8		60.8	73.5	62.7		
" " .....Max	80.1	68.9	59.0		53.7	39.3	49.5		63.7	63.3	71		78.8	86	79.5		
" " .....Mean	67.2	53.4	43.2	55.6	30.4	22.2	26.9	26.1	41.6	46.9	60.2	50.6	67.4	80.8	70.9	73.1	51.4
" Oscillation, 7 a.m. to 2 p.m.									12.3	12.5	11.4	12.1	11.8	13	14 3	13	
Pressure of Vapor.....	.445	.3	.197	.314	.154	.102	.115	.124	.254	.221	.379	.278	.479	.739	.538	.585	.325
Relative humidity, 100 being Saturation	67.4	73	66.3	68	82.5	75.1	74.3	78.2	65	63.4	69.7	66	63.6	70.9	72	68.8	70.2

Report of Observations of Clouds, Rain, Snow, and Wind. Calculated from three Daily Observations.

				TOTAL				TOTAL				TOTAL				TOTAL	TOTAL
CLOUDS																	
No. of Times no Clouds Visible.....	39	36	28	103	11	24	29	64	23	18	25	66	10	15	29	58	291
" Entire Cloudiness.....	5	27	26	58	47	35	43	125	41	24	30	95	15	11	16	42	320
" Partial "	46	40	38	124	35	34	25	94	29	48	38	115	56	67	53	176	527
Whole Days Entire "	6	2	7	15	3	7	4	14	9	3	4	16	2	.....	2	4	49
" without "	.....	4	1	5	1	3	2	6	4	.....	1	5	2	.....	2	4	20
Mean amount of Cloudiness, (Scale 10).	2.61	4.12	4.52	3.75	7.07	5.53	4.39	5.69	6.07	5.11	4.99	5.39	4.5	4.23	4.25	4.33	4.79
RAIN and SNOW.																	
Inches of Rain and Melted Snow.....	.34	2.61	2 78	5.73	3.49	2.94	1.13	6.56	7.09	4.94	8.26	20.29	2.69	4.40	2.36	9.95	41.81
" Snow	.....	.....	1	1	12.5	9.5	3	25	2	3	.....	5	.....	.....	.....	.....	31
No. of Times Rain Fell.....	5	9	5	19	6	1	3	10	12	12	14	38	7	9	6	22	89
" Snow Fell.....	.....	1	2	3	6	5	4	15	1	1	.....	2	.....	.....	.....	.....	20
WINDS.																	
No. of Times W.....	7	2	2	11	6	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	17
" N. W.....	14	36	20	70	25	25	35	85	14	17	34	65	30	6	15	51	271
" S. W.....	31	32	42	105	26	42	22	90	31	32	27	90	55	54	37	146	431
" E.....	1	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
" N. E	5	4	5	14	23	6	14	43	26	28	15	69	.....	16	16	32	158
" S. E.....	15	5	13	33	11	19	16	46	22	11	13	46	5	14	16	35	160
" N.....	1	.....	2	3	1	1	.....	2	.....	1	1	2	.....	.....	.....	.....	7
" S.....	3	.....	3	6	1	.....	.....	1	.....	1	.....	1	.....	.....	.....	.....	8
" No Wind.....	13	13	3	29	.....	.....	.....	.....	.....	.....	3	3	.....	1	9	10	42

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Conservative Surgery in its General and Successful Adaptation in Cases of Severe Traumatic Injuries of the Limbs, with a report of Cases. By ALBERT G. WALTER, M. D. Pittsburgh: W. G. Johnson & Co. Printers, No. 57 Wood street, 1867.

These cases occurred through a period of seventeen years' experience —from July, 1850 to June, 1867, and they well attest the powers of nature in the repair of severe and complicated injuries. The cases reported are about seventy, and the results show excellent success, nearly all of them ending in recovery with useful limbs. Those who took the initiative in this method of treating injuries certainly deserve great praise from the profession, as well as from the public. About 1850, and for a long period prior to this, conservatism was a principle scarcely recognized in the treatment of injuries. The powers of nature were held subservient to art, hence the frequency of amputations. And it required no small amount of courage in those days to overstep the bounderies of authority, set routinism aside, and declare nature supreme in the healing power. But judging from the opposition met, and overcome by the author in inaugurating and carrying out this policy, it appears that he possessed in kind and degree the courage to meet the emergency.

The rules laid down in this monograph as a guide to the treatment of injuries, are in the main amptable too, and adopted by surgeons of today. In our notice of the work it will not be expected that we will take up these, or the cases and present them in detail. We can only refer to the most prominent features.

At the outset the author gives a summary of his plans and ideas for the management of injuries, and dwells upon the advantages derived by "long and deep incisions" early made "for the escape of effused blood confined under the fasciæ, between the muscles, and in the cellular tissue of the skin, and that all attempts to bring the soft parts together, when lacerated or cut, by stitches, be strictly and absolutely discarded. The wound should then be freely enlarged, or, if no breach of surface should exist, but mere bruising and swelling be present, indicating the extent and severity of the injury, a few incisions in the long axis of the limb should at once be made through derma and fasciæ, which will liberate

the muscles, blood-vessels and nerves, from the pressure of blood effused in the areolar meshes of the different tissues, and give relief to the subsequent swelling of muscles, and extravasation of serum, which always follows in the course of such injuries, with gangrenous destruction of the skin and fasciæ superadded."

This is a practice that should be, and probably is endorsed by all well informed surgeons. But after the blood and serum have been thoroughly discharged we think it best to close the wounds and incisions, and protect them from surrounding and extraneous influences. We do not believe, as the author does, that an injury as described by him will do better to leave the wound open to heal by granulation. Nor do we believe nature indicates such a course. When a breach is made in the animal or vegetable structure, we notice that the first efforts made is the pouring out of secretions for the protection of the wounded surfaces.

In looking over his cases we find that poulticing and fomenting are largely depended on in local treatment. And that they are advantageous in many cases in the course of treatment is a fact; but our own experience and that of others do not warrant their use to the extent advised by the author. It is the opinion of surgeons now, and the opinion is well corroborated by experience, that poulticing and fomenting favor suppuration, a condition we wish to avert. Perfect success in union often depends upon preventing the formation of pus. If suppuration is inessential to the healing process, it follows of course that the less we have of it the better. Pus is the result of inflammation, and inflammatory action is not essential to the repair of an injury; though it usually accompanies injuries, it does so only as a consequence, and not as an essential element in the cure. The best treatment is that which controls inflammation—keeps it to the minimum standard.

A point well taken by the author, when inflammation runs high with congestion, is to make incisions freely and extensively in the tissues approximating the wound to relieve the tension and congestion. We regard this excellent practice when such a state of things exists, but think it much better practice to prevent it. With the information and facilities we now possess for treating wounds, we begin the treatment with full confidence that we shall be able to prevent the condition arising requiring incisions.

The author objects to the closing of wounds by any means, and regards it pernicious and unsafe practice. If reliance for union, in all cases and under all circumstances, be wholly submitted to this sort of practice, we shall agree with him as to its inutility and unsoundness. But if an-

tiseptics are used before closing the wound, and the wound made subcutaneous by an artificial coating, the objection can not be held as a reasonable one. Richardson's colloid styptic is an agent that fulfills both indications. It prevents metamorphosis of the tissues—or oxidation, if you please—and the accumulation of secreta, which precludes the necessity of an opening for the escape of fluids. There is now sufficient clinical evidence to warrant us in making the statement that extensive incised and lacerated wounds can be healed by the use of the colloid, with much less suppuration, with much less soreness and inconvenience to the patient, and in much less time than by the method proposed by the author.

After the report of cases he discourses at considerable length upon the germ theory of Lister and Pasteur, objecting to it upon the principle that pure air as furnished by nature "can not be deleterious to wounds, while at the same time it is not only healthful, but absolutely indispensable to the existence of the animal and vegetable creation. If otherwise, nature's work in surrounding this globe with it would be incomplete without an antidote for the qualities pernicious to wounds. All the productions of the great Master, however, having been designed and formed with such wonderful wisdom, and not one of the numberless objects of which the world is composed betraying the least error in execution, who would dare to assert that pure air could have been called into existence with properties other than beneficial? To assert that there is this error in nature, when error is impossible, is worse than trifling with the Creator's wisdom and goodness. It is man who has erred, in the face of the most unequivocal proofs of nature's perfect and wonderful work, and who perishes, while failing to discover the cause of his own mistake, in charging one of God's greatest blessings to His children with properties foreign to His evident designs and intentions. Pure air, therefore, I have no hesitancy in declaring, is not only harmless, but priceless to man, and all the rest of creation, whether in a healthful or an afflicted condition. Like the rain drops descending from the great laboratory of Heaven, the air sent pure and beautiful is refreshing, invigorating and gladdening to all the inhabitants of this beautiful globe. Its pure and unrestrained access to the wounds and injuries then cannot be the cause of those dismal complications—erysipelas, phlegmon, gangrene, tetanus, phlebitis or pyæmia—which are known to ensue in so many cases."

This is a beautiful eulogy upon the philosophy and physiology of air, and we presume no one will deny that it is essential to life, health, and existence; but we fail in all of it to discover an argument

which controverts the theory of Pasteur and Lister. And it matters not whether the theory be true or untrue, the beneficial effects resulting from the exclusion of the atmosphere in the treatment of wounds, is a principle long recognized by surgeons, and is now more fully than ever before established by clinical observation and experience. Until very recently we have failed to accomplish, mechanically and chemically that which the principle plainly indicates. Lister's pheuic acid paste closely approximated the agent we needed, but failed to fill in all respects the wants of the surgeon; while Richardson's colloid styptic comes in and supplies the deficiency, and in our opinion excels any and all agents yet introduced for the treatment of wounds. It fulfills the indications most perfectly. It acts chemically upon the secretions in and about the wound, controls inflammation, prevents destructive metamorphosis, and leaves the wound subcutaneous and impervious to air and water. We have used the colloid in extensive and slight wounds, in abrasions of the cuticle, and in burns with most satisfactory results. Compound fractures by the aid of the colloid are convertible into simple ones, which to a great extent cuts off the dangers that attend such injuries, besides it relieves the patient of no inconsiderable amount of suffering, hastens recovery and saves the surgeon much annoyance and anxiety. Amputations are materially benefitted by its use, uniting with less inflammation, suppuration and swelling, and often without the presence of the characteristic symptoms which usually accompany other methods of treatment. In injuries of the face, and other exposed parts of the body, where we desire union by the first intention, to avoid unsightly cicatrices, it is an excellent agent. In the March number of the *Medical Times and Gazette*, London, 1868, in an article upon the "Antiseptic and Subcutaneous principles of treating wounds," by Mr. Adams, good testimony is offered as to the efficiency of the colloid in their treatment. Under his supervision a great many cases of severe injuries have been treated by this agent, followed by the best of results." He cleanses the wound with ether, or if water is used for cleansing, applies the ether afterwards, and applies the colloid to close the wound. He says, or rather his house surgeon, out of the thirty-three cases of recent wounds treated with the styptic colloid twenty healed by the first intention, requiring no further application than the first dressing, the remaining thirteen required the styptic to be removed, but still in nearly all some amount of adhesion had taken place, although suppuration had taken place in all, requiring the removal of the dressings. The styptic colloid, in my opinion, has three advantages: It is certainly a great improvement on the pad and bandage * * and with-

out doubt favors greatly, although not certainly, adhesion by the first intention, adjusting by its contractile powers (upon drying) the surfaces of wounds together, and effectually preventing the access of air. It appears to me, from wounds I have treated with it, to be particularly applicable to clean cut-wounds when the surfaces can be brought accurately together; but the styptic is certainly often successful in obtaining union without suppuration in lacerated and often contused wounds, checking at all times, and often preventing suppuration in a wound, which otherwise treated would be nearly sure to suppurate." Lister and Syme's experience is corroborated, and they express the same confidence in the styptic that Mr. Adams and his house surgeon do.

In concluding the monograph the authors pays a fine tribute to Dr. McElroy, of Ohio, for opinions expressed in a paper read by him before the Muskingam County Medical Society, entitled, "Dynamics of inflammation." He contends that inflammation is "not an exalted but a lowered grade of organic life." We most heartily endorse this theory, and for several years have contended for, and believed it true. We do not know the date when Prof. Jackson or Dr. Chambers "hinted" at it, but we do know that Carpenter in his principles of Human Physiology, fourth edition, published in 1843, suggests it; and we have for twelve years, at least, treated inflammations upon the principle of diminished instead of augmented vitality. Upon this physiological fact, we abandoned the anti-phlogistic method, and in its stead founded in our practice the restorative treatment.

In some passages we regret to see that the author makes harsh and severe allusions to the opinion and practice in particular cases of other surgeons. Each locality furnishes all the jealousy, trials and troubles that the professions needs, and we have not the remotest desire to know what is going on in this respect in other places. We ought in all our relations and professional intercourse, to cultivate charity and promote harmony. All are liable to make mistakes, and in cases of emergency, if it so happens that half a dozen precede us in a case, and think amputation necessary, when upon our arrival we think differently, and by the aid of nature and conservatism save the limb, we should be very charitable to the erring judgment of our professional brethren. We may possibly err upon the other side, in attempting to save a limb that should have been sacrificed, where if the principle of do unto us as we did unto you, be applied, censure may be meted out to us. Let us, therefore, ever, and under all circumstances, cultivate the spirit of brotherly love and charity, attributes of the Great Physician, that when time and place are no more with us, we shall receive the reward of the "good and faithful servant."

In closing we have to say, that we have been entertained and instructed in the perusal of this work, and would be pleased to know that it was generally distributed to the profession. At the same time we feel that Dr. Walter has made a mistake in the method of giving his large and mature experience to the profession. It is the kind of intelligence that should reach the profession through good medical periodicals. In this way it would be extensively circulated, a thing the author can scarcely expect in its present shape. J. A. C.

The Practitioner. A monthly Journal of Therapeutics. Edited by Francis E. Anstie, M. D., and Henry Lawson, M. D.

We have before us the first number of this Journal. The undertaking is favored in two important particulars—in having two well-known and able editors, and in the time of its inception. There is a generally recognized feeling of the necessity of more attention to Therapeutics. Of the original communicatory we have one by Maisonneuve on "The Treatment of Wounds by Pneumatic Aspiration." One by J. Russell Reynolds on "The Therapeutic uses of Bromide of Potassium." One by J. N. Radcliffe on "Faradization in the Treatment of Paralysis. One on the employment of Glycerine of Tannin, by Sidney Ringer, and one on the Hypodermic Injection of Remedies, by Dr. Anstie. The other contents are made up of reviews, monthly clinics, extracts from British and foreign journals, notes, queries and bibliography. The original matter will be noticed as comprising topics of considerable practical interest at this time.

Maisonneuve in the first article gives his method of pneumatic aspiration, which, as the treatment of stumps is just now a topic of discussion, in connection with carbolic acid, we give his own words: "After having stopped the hemorrhage in the usual way, I clean the wound with the greatest care, wash it with alcohol and wipe it with a dry cloth. I bring the edges together with diachylon, but without opposing any obstacle to the flow of the secreted liquids. I then apply a layer of lint soaked in antiseptic liquids, such as tincture of arnica, carbolic acid, or other suitable substance, and finally, I fold the whole in a few bands of linen soaked in the same preparations." After this preliminary dressing the following apparatus is applied: It consists first, of an extremity of India rubber, like a lady's muff, and intended to embrace the stump, and a tube of the same substance; second, of a vessel 3½ qts. to one gal. capacity, provided

with a mouth piece with two holes; third, of an exhausting pump fitted with a flexible tube. The stump covered with its bandage is first placed in the India rubber muff, whose orifice embraces exactly the integuments of the limb, and the tube is placed in connection with one of the holes in the mouth piece of the vessel. To the other operation I adapt the tube from the exhausting pump and then I work the piston. The air of the vessel is drawn off and the liquid of the dressing, with those of the wound, follow the air and flow into the vessel. The 'muff' applies itself closely to the limb. Pressure of the atmosphere exercises through the 'muff' considerable compression of the stump, keeping the divided surfaces in contact. The continued exhaustion produced by the rarefied air of the vessel prevents the accumulation of liquid, and thus promotes rapid cicatrization."

We apprehend that this complicated apparatus will soon be laid aside as one of the surgical curiosities, though its author claims unusual success with it.

Second Article.—The therapeutic effects of Bromide of Potassium are considered in the treatment of four groups of diseases. 1st, those marked by spasmodic contraction of the muscles; 2d, those characterized by disturbances of sensation; 3d, diseases displaying themselves in mental change, and 4th, affections of the vaso-motor system of nerves. His conclusions as to its use in the first class are that, 1st, its efficacy is most marked when the malady is paroxysmal; 2d, that its value is high in proportion as the disease approximates the type of convulsions, known as epileptic, and 3d, that when spasmodic movements are habitual its remedial influence is at the best doubtful."

We have not space enough to give a full abstract of the author's paper; we gives his concluding words on the action of the remedy:

"The facts that I have witnessed would lead me to infer that the specific action of bromide of potassium is exercised upon the system of vaso-motor nerves, and it acts upon that system as a sedative, *i. e.* that it reduces such morbid activity as would lead to the spasmodic narrowing of vessels, and the consequent irregularity in the supply of blood, contraction of the vessels, forms by far the most important link in the chain of causes and effects in epilepsy and all other diseases." Speculation as to its mode of action is of a less consequence than the fact of its value in a variety of diseases. We may remark just here that the theory of vaso-motor action and influence in disease is being brought into frequent requisition—probably too frequently.

A useful article on the "Faradization in the treatment of paralysis"

contains a satisfactory summary of the methods and instruments most desirable for such a purpose. The first sentence of this article will probably pertain as well to American practitioners as to English. "The use of electricity as a therapeutical agent, and in pathological investigations by English medical practitioners, lags much behind the knowledge acquired of its diagnostic and remedial value." The author recommends a useful form of apparatus by Stöhrer, of Dresden, for three requisites—a sufficient range of power—easiness and a certain niceness of graduation—and immediate readiness for action, and a capability of being placed out of action without involving trouble and loss of time.

Ringer's applications of Glycerine of Tannin, or tanno-glycerine as we frequently call it, are such as we are accustomed to make, in ozaena, otorrhœa of unhealthy children—eczema, and throat disease.

Anstie on the hypodermic injection of remedies is an interesting and valuable testimonial to the various uses of a comparatively new method of applying certain remedies.

The department of reviews, extracts from journals, etc., comprise a number of notices of American authors.

The Practitioner deserves a liberal patronage, as working in a neglected department, and as promising a good deal of practical matter. The appearance and type are good and clear. W. C.

A Manual of the Dissections of the Human Body. By LUTHER HOLDEN, F. R. C. S. Lecturer on Anatomy at St. Bartholomew's Hospital, etc. With notes and additions. By Erkine Mason, M. D., Demonstrator of Anatomy at the College of Physicians and Surgeons, New York, etc, Illustrated with numerous wood engravings. New York: Robert M. De Witt, publisher, 1868, pp. 388; cloth.

No new book that we have recently examined has given us more satisfaction than this. While reading it we can almost imagine ourselves to be in the anatomical theater while the author makes his demonstrations on the cadaver before us. The descriptions have about them a terseness and freshness that we have not before met with in a work of this kind. This feature will certainly render the work peculiarly attractive to the student in practical anatomy, and the physician or surgeon who wishes to refresh his memory on anatomical subjects.

Very many students take but little interest in the dissections they are required to make in the dissecting room. This is often in part owing to the fault of the demonstrator of anatomy, but much more, we believe, to the guides in dissection they have been until recently required to follow. So much of the author's personality is infused into the descriptions contained in this manual, that with it open before him, the student will feel that every stroke of his scalpel is directed by the master's hand.

The work does not pretend to be a complete scientific treatise on anatomy, simply a manual of dissections, yet it describes so clearly the various parts as they come into view under the knife and their relations that for most practical purposes it may well take the place of the more elaborate works commonly placed in the hands of the students; besides, under its guidance the acquisition of a knowledge of practical and surgical anatomy will be divested of many difficulties that usually surround the beginner.

The additions made by Dr. Mason seem to have been carefully prepared and have reference mainly to the anomalies of the vessels and muscles, with which the student should become familiar while pursuing his studies, together with the weight and measurement of organs and occasional reference to operations which it is well to practice on the cadaver. A "Classification of the muscles according to their uses, after Dr. Barclay, together with the grouping of the vessels and nerves as given by Ellis in his Demonstrations of Anatomy," are also added.

The work is well illustrated by many wood engravings.

Without designing to disparage any of the many excellent treatise on Anatomy or Dissector's manuals already furnished, we say that we believe with the editor of this manual, that it is the best guide for the American student that has yet appeared for use in the dissecting room.

The publishers in the printing and binding have well executed the work confided to their care. J. H. W.

On the Signs and Diseases of Pregnancy. By THOMAS HAWKES TANNER, M. D., F. L. S., member of the Royal College of Physicians, and from the Second and Enlarged London Edition, with four colored plates and illustrations on wood. Philadelphia: Henry C. Lea, 1868. pp. 490.

Dr. Tanner is not a new author, having already given to the profess-

ion several books relating to practical medicine, all of them giving evidence of careful study, close observation, and a clear apprehension of what should be told, together with a happy tact in so presenting whatever he undertakes to communicate, that it shall readily and pleasantly impress the reader, all of which goes to show that our author has a genius for book making.

The present treatise will in nowise detract from the reputation the writer's former books have established for him.

Chapter I. "General Observations on the State of Pregnancy," is subdivided into ten parts, and is full of entertaining and instructive knowledge, not only telling us what we can know, but also marking out limits beyond which, if we pass them, all is doubt, darkness and uncertainty. This chapter will be found interesting for general reading by those who are not practically engaged in obstetrics.

"The Signs and Symptoms of Pregnancy" are treated in Chapter II, in ten sections. The present state of science relating to this perplexing subject is elaborately and adequately set forth. Every practitioner is occasionally puzzled with a case of doubtful pregnancy, and while a careful reading of this chapter may not always help him out of his difficulty it will assist him as far toward that goal as book reading can.

Chapters III., IV., V. respectively on "The Diseases which Simulate Pregnancy," and "The Premature Expulsion of the Fœtus," are all that could be asked on these subjects.

The sixth chapter on "The Examination of Substances expelled from the Uterus," etc., is fully worthy of close examination. Careful attention to its teachings may remove many doubts from the mind of the physician, and might possibly save the fair fame of some unfortunate women brought into jeopordy by disease over which she could exercise no control.

"Extra-Uterine Gestation," "Superfœtation—Missed Labor," "The Diseases which may exist with Pregnancy, and their Reciprocal Influence," are the headings of three chapters; and chapter X., "The Sympathetic Disorders of Pregnancy," is particularly full and valuable.

Chapter XI., presents "The Diseases of the Urinary and Generative Organs," and chapter XII., and last, treats of "The Displacements of the Gravid Uterus."

We repeat that the book is a most admirable one, valuable to the young man for study, and not less so to the active practitioner for reference.

The sixteen wood cuts very handsomely illustrate the subjects they present, but the four colored plates, purporting to be *fac similes* of the

mammary areolæ in three stages of pregnancy, are a cheat and a delusion. We question whether they accurately picture any natural object on the face of the earth, or above, or beneath it. J. F. H.

The Anatomy and Histology of the Human Eye. By A. Metz, M. D. Published at the office of the Medical and Surgical Reporter, Philadelphia: 1868. Pp. 181.

An increased want of text books of ophthalmology, in English, has attended the establishing of chairs on this subject in our medical colleges.

Students and practitioners ignorant of French, and more especially of German, have been, of necessity, compelled to remain content in the perusal of works now almost obsolete, or glean a knowledge of the more modern advances in this specialty from original articles and translations in medical periodicals.

Of late, the translation of "Stellwag on the Eye," and, now, the introduction of the above work by Dr. Metz have contributed much toward filling empty spaces in our brains and book-shelves.

It is certainly more convenient to study the anatomy of the visual organ in a work wholly devoted to its consideration, than to ransack the different sections of Wilson or Gray for the various tunics, muscles, arteries, veins, etc.; and Dr. Metz is entitled to our thanks for the compact form in which he has arranged the researches of the thirty-nine different authors from whose works he has made selections, even if we view the book only as a compilation.

Although not strictly belonging to a work of this kind yet we are glad to see that Dr. Metz devotes four pages to the consideration of that *pons asinorum* of the lecture room, the physiological action of the muscles contained within the orbit.

Concerning the general appearance, type, and illustrations, we can only say that they are, with but few exceptions, not to be excelled; and both author and publisher should be encouraged to issue a second edition, that what few imperfections there are, may be corrected.

We are pleased with this work, and we cordially grant, what its author so modestly asks for it, "a friendly reception." C. E. W.

Half-Yearly Compendium of Medical Science. Part II. July, 1868. S. W. Butler, M. D., 115 South Seventh Street, Philadelphia.

We are glad that Dr. Butler perseveres with this undertaking, and we hope that it will grow in professional favor and usefulness.

The Science and Practice of Medicine. By WILLIAM AITKEN, M. D., Edinburgh, Professor of Pathology in the Army Medical School. Second American, from the Fifth London Edition, etc. With Large Additions by Meredith Clymer, M. D., ex-Professor of the Institutes and Practice of Medicine in the University of New York, etc. Lindsay & Blakiston, Philadelphia. Vol. I. For sale by C. P. Wilder, Indianapolis.

Eleven years ago the first edition of this work was published in London: it was then a single volume of no great size. The fact that the fifth edition has already been issued is sufficient evidence of the favor with which "Aitken" has been received by the British profession. Nor is the testimony of the American profession to its value less equivocal, for in little more than twelve months the first American edition was out of print.

Professor Aitken's work has been one of the most valued in our library since we first made its acquaintance in 1864. In high scientific character, and in the thoroughness and completeness of most recent pathological views, we do not believe it has its equal in the English language. To every physician who holds it his duty, his pleasure, and his interest to be a student, this work commends itself. We have only space to add that the publishers have presented it in an admirable style, while the additions made by the American editor, Dr. Clymer, are generally of very great value: we must, however, demur to Dr. Clymer's prescription of *ten or fifteen grains of quinine daily in typho-malarial fever*, as needless in the majority, and injurious in some cases of this disease. Such doses, and even larger, may be useful in some cases at certain periods of the disease, but to give them daily will often cause increased nervous disturbance and diarrhœa; at least we believe we have been so taught by our experience.

EDITORIAL AND MEDICAL NEWS.

A YEAR ago we had somewhat to say in our JOURNAL to medical students in regard to studies, habits, *et cet.* Twelve months have passed very rapidly, and we find ourselves again entering upon the period when

lectures are inaugurated in our great medical centres and students are thronging to them.

We believe that the profession steadily advances in knowledge and in culture; the men that are already in it grow, and those that aspire to it enter upon their studies better qualified than their immediate predecessors; of course we speak of average, not of absolute rules. It is, however, chiefly through the infusion of new blood that the body medical is revivified, regenerated, and all physicians must rejoice when the promise of future improvement and growth is so distinct and unequivocal as is afforded—and this every observant medical teacher in our schools will testify—by the steady improvement each year in the character and qualifications of our medical students.

We wish that we could impart to the young gentlemen some true conception of the increased responsibilities which rest upon them, and of the ardent hopes which are cherished in their behalf by the older members of the profession. They have a work to do for which others have in some measure prepared the way; and they have facilities for qualifying themselves for this work which are increased and enlarged every year. Above all we wish we could make each one of them realize in his inmost heart, as we know many do, that the physician's is one of the highest of earthly avocations, and that he who worthily fills it is as verily called of God unto it as anyone is who holds the priestly office; this is a sacerdotal work, and men are commissioned unto it as by Divine ordinance.

Undoubtedly many a man is a doctor who never thinks of his profession but as a respectable means of obtaining a livelihood, whose chief studies are how to get patients and how to make the most out of them; how to damage the reputation of a supposed or real rival that he may rise upon the ruins; and is forever prating about quacks and may be the veriest quack himself. Undoubtedly, too, the mass of men think of the physician as a tradesman anxious to get their custom, and with whom their intercourse is mainly if not solely commercial. But after all is said upon this side of the question, there remains a very large portion of society who give to the physician all the honor, gratitude, and respect that are due his exalted office; and their remains, too, a large number of true physicians, scorning the contemptible tricks of flunkeyism and favoritism, men not afflicted with amentia, with moral dyspepsia or Pharisaism—men who have *wholth*, that is are *healthy* intellectually, and morally, and physically—and who work on in the practice of their profession, often comparatively obscure, fearing God and loving man: these are true priests and law-givers, or law interpreters to their fellows. These

do not expect or realise a thornless pathway through life; poverty may pinch, slander may annoy, the defection of friends, the malice of enemies may try; but all this is nought if duty is faithfully met and discharged, if mind and heart are constantly growing, and the life is daily rendered more useful to suffering humanity. When medical students realise such conceptions of the dignity and worth of the office which they seek, when they forecast the great life-work which awaits them, not a word of earnest entreaty to make diligent use of every facility for the acquisition of knowledge which they now are offered need be said, nor a word of warning against the countless temptations to vice, indolence, to profligacy, if not to crime with which our great cities abound; but they will assiduously labor in qualifying themselves to gain for their names, we use the words of Sir Humphrey Davy, "the most enviable of immortalities, that connected with the gratitude and blessings of their fellow creatures, and which will be more valued as men estimate more correctly the character of true glory."

In conclusion, we adopt the language of a contemporary,*

Let us observe that, whilst every profession has its own duties, trials and rewards, there is none in which the duties are more onerous, the trials and temptations more severe, nor the rewards more satisfactory, than ours. Every profession possesses its own peculiar cast of thought and action; there is none that demands a higher and purer tone than ours. The subjects which it embraces are so vast and various that every kind and quality of intellect, the subtle and capacious alike, will find ample material for thought and reflection; whilst it cheerfully acknowledges that every department of knowledge may assist in its development and progress. The pursuits of the historian and antiquary are not uncongenial to it, as more than one brilliant example attests. It has recently been shown that not only the chemist and the botanist, but even the geologist, may bring important evidence to bear on the outbreak and extension of disease; whilst all those branches of knowledge whose proper study is Man, are connected with it by the closest and most indissoluble ties, and from no profession do these, as well as all the sections of physical science, find warmer or more able supporters than from ours. They who enter the medical profession must do so for the love of scientific investigation. It will yield them an honorable competence, but scarcely more. No mitre, no coronet, awaits even the most successful practitioner; but he has a reward, and surely it is a sufficient reward, in the knowledge that he has relieved pain, and that he has mitigated the worst of the evils that flesh is heir to.

Let every man remember as he enters the portals of the hospital he has selected, that he must himself be the builder ot his own fortune. For him TIME is; let him not so employ it that he may hereafter, with shame and regret, be compelled to confess, TIME was.

*Lancet, Sept 12, 1868.

Let him assure himself that if he be desirous of rising in his profession he has chosen, he must follow the footsteps of illustrious predecessors, must learn 'to scorn delights, to live laborious days,' must be his own teacher, must examine the book of Nature for himself, and, content to stand at first at the food of the ladder, must learn with labor and patience to mount to clearness and knowledge.

"The heights by great men reached and kept
Were not obtained by sudden flight,
But they, while their companions slept,
Were toiling upward to the light."

We are in receipt of the "First Annual Announcement of the Bennett College of Eclectic Medicine and Surgery, Chicago, Ills." In the Address to the Medical Profession by this neophyte we read: "The scientific principles of conservative Eclectic medicine, first enumerated and so ably defended by Prof. Bennett, of the University of Edinburgh, some years ago, has established true Eclecticism upon a basis which can not be controverted"—a sentence which in regard to grammatical accuracy, rhetorical beauty, and historical truth, will add nothing to the reputation of American Medical Eclecticism.

That such a name should be seized upon by these Chicagoese to give their offspring, we do not wonder at—nay, we rather admire the bold audacity of the seizure; but the distinguished Professor in the University of Edinburgh, whose name is thus taken in vain, has some knowledge, through the medical journals of Great Britain, of the infamous sale of diplomas regularly carried on in Glasgow and in London by an eastern Eclectic school, and must repudiate, if he should notice at all, this effort to use his name and reputation for the purpose of bolstering up a slowly dying cause.

We are indebted to our friend, Dr. Charles J. Kipp, of Newark, N. J., for the following:

"The physicians of Cassel, Germany, have recently unanimously adopted a resolution hereafter not to furnish to life assurance companies the medical certificate required from the family physician of the applicant for a policy, and thus to compel the companies to base their judgment as to the fitness of the applicants solely on the certificate of their confidential medical examiner. It is said that the indiscretion of a life assurance company in communicating to an applicant that his application for a policy was declined in consequence of an unfavorable certificate of his family physician, was the cause of the adoption of this resolution. The rejected candidate dismissed his physician for this reason.

[*Allgemeine Med. Central-Zeitung, Aug.* 15, 1868

PROCEEDINGS OF THE DEARBORN COUNTY (IND.) MEDICAL SOCIETY. The Society met at the Council Hall, in Aurora, August 11, 1868, at 11 A. M., the President, Dr. Sutton, in the Chair. Members present: Harding, Haines, B. C. Bond, Rectanus, Lamb, Bowers, Kyle, Craig, and Miller. Minutes of the previous meeting read and approved. Dr. Bond introduced the subject of sun-stroke, which was debated untill 12 o'clock, when, on motion, adjourned for dinner. Society met again at 1½ P. M., and was called to order by the President. The subject of sun-stroke was resumed and discussed at length. Dr. Kyle brought before the Society a child affected with cerebral disease, producing want of co-ordination of the voluntary muscles. Dr. Harding spoke of a new and simple treatment of entropium, which commended itself to all. Dr. Bond reported a case of biliary calculi, producing enlargement of the gall bladder, by obstructing the duct, which was debated by nearly all the members for some time. Dr. Bowers reported the treatment of some cases of typhoid fever, which brought out the views of all present on the value of different therapeutic agents in that disease.

From reports, the health has been remarkably good throughout the country, and a marked exemption from intermittents, notwithstanding the unusual amount of rain and moisture in the atmosphere.

Dr. Sutton was requested to prepare a paper on some medical subject for the next meeting.

On motion of Dr. Lamb, Society adjourned to meet at Lawrenceburgh on the second Tuesday of December next, at 10 A. M.

Ondered that an abstract of the proceedings be furnished the county papers for publication. C. B. MILLER, M. D., Secretary.

OHIO COUNTY (W. VA.) MEDICAL SOCIETY.—The regular practitioners of medicine in Wheeling, held a meeting in the chamber of the first branch of Council on Saturday evening, August 29, 1868. Dr. A. S. Todd was chosen Chairman, and Dr. R. H. Cummings, Secretary.

A committee consisting of Drs. E. A. Hildreth, John Frissell, John C. Hupp, R. H. Cummings, and R. W. Hazlett were appointed to report on the plan of organizing a Medical Society at an adjourned meeting to be held at the same place on the 12th of September. Accordingly on Saturday evening last, the regular profession reassembled as per adjournment, and was called to order by the Chairman, Dr. A. S. Todd.

The Committee appointed at the previous, meeting through their Chairman, Dr. Hildredth, made their report, recommending that a county Medical Society, auxilary to the State Medical Society, be organized and at its *organization* to be composed of the present members of the State Medical Society within the county.

The report was on motion received and adopted, and the following committee appointed on Constitution and By-laws, viz: Drs. Hildreth, Bates, Frissell, R. H. Cummings, and Weisel, to report at an adjourned meeting to be held at the city buildings on Saturday evening, October 3, 1868.

IN CONSIDERATION of the numerous victims of homœopathic treatment, a decree of the Emperor of Russia prohibits the practice of homœopathy in the entire territories of Russian America. [*Union Medical.*

SHAME ON NELATON AND THE ROTHSCHILDS! It is stated in the public prints that an entertainment was given not long since by the Rothschilds at their country seat in France, a prominent feature of which was the engagement of the great surgeon, Nélaton, for the purpose of dressing the wounds and broken limbs of the hares and pheasants injured in the chase, and that a regular ambulance department was organized for the purpose of bringing the animals from the field to the surgery and taking proper care of them as they left the hands of the surgeon. The design, of course, was to save the creatures for future sport, that they might be hunted and shot at again. It is almost incredible that any respectable member of the profession should lend himself to such a refinement of barbarity. We have seen a large basket of dead pigeons, nearly two hundred as we computed, brought to San Francisco on the boat from Alameda County, the result of a Sunday's pigeon shooting over the Bay; and we thought it bad enough for a civilized country that birds should be so mangled in every conceivable manner, merely for sport. But in this case the wounded and suffering animals were despatched speedily by wringing their necks, and there was no prostitution of science in aid of brutality. School boys are taught to detest the character of the Roman Emperor who foreshadowed his career of cruelty by capturing and torturing flies for the sake of amusement. But commend us, say we, to the rude and vulgar sport of Domitian, rather than to the revolting burlesque on humanity and science devised by Nèlaton and the Rothschilds.

[*Pacific Medical and Surgical Journal*, August, 1868.

THE Messrs. Appleton have assumed the publication of the *Quarterly Journal of Psychological Medicine*, and the New York *Medical Journal*, which will remain under the able management of their former editors, Drs. Hammond and Dunster. The fourth number of our *Medical Quarterly, the American Journal of Obstetrics*, has passed into the hands of Dr. Dawson, to whose editorial energy is due the great success which attended its first issue. [*Medical Gazette*, Aug. 23.

EFFECTS OF DIGITALIS ON THE MIND.—It is a popular opinion that digitalis acts injuriously upon the *memory*, and that it hastens childishness in elderly persons. Undoubtedly it has a peculiar and specific influence upon the mind, probably through its remarkable power over the circulatory system. It has recently been used in Germany with success in the treatment of hallucination.

In the *Allg. Ztschr. fur Psychiatrie*, a case of a woman is reported, aged 38 years, who was constantly troubled with the appearance of devils and imps, brandishing flames and threatening to strangle her. She was placed on digitalis (half a scruple to five oz. of water, one drachm three times a day), and in two or three months was quite restored. The real effect of the drug on mental action should be carefully studied.

DR. W. A. BYRD recommends in the St. Louis *Medical and Surgical Reporter*, that spermatorrhœa be treated with porte-caustics made of slippery-elm bark steeped in strong solution of nitrate of silver, and dried.

THE KIND and complimentary things that have been said of the JOULNAL, by other journals, and in private letters from physicians, we have uniformly refrained from publishing. Nor would we in the present case depart from this rule, had not an effort been made by some parties *indirectly* to injure the JOURNAL: of these parties and their conduct we may be compelled one of these days to speak in very plain terms. We sincerely thank Dr. Logan for the subjoined generous notice which we find in the *Leavenworth Medical Herald* for September:

THE WESTERN JOURNAL OF MEDICINE.—When one receives a batch of letters, he generally turns them over and selects those for first reading in which he has the deepest interest. So when we find our monthly supply of medical journals on our table, we look for those whose contents are most interesting to us. Of these the WESTERN JOURNAL OF MEDICINE stands among the foremost. It is most ably and *industriously* edited; frank, generous; and although its editor, Dr. Parvin, is attached to a college in Cincinnati, it is utterly free from any college partizanship. It is published as a *medical journal*, and not as a *college announcement*. In a word, it comes almost as near being an independent journal as the *Leavenworth Herald*. If any of our subscribers wish another Western journal beside the *Herald*, let them remember Dr. Parvin's at Indianapolis, Indiana.

IN THE PRESENT, number we give, as in each of the last two numbers of the JOURNAL we gave, our readers four extra pages of reading matter; notwithstanding this increase we find ourselves compelled to defer some two or three articles, among these, a review of the Transactions of the Indiana State Medical Society, until our next issue.

PROF. TAYLOR, of the Miami School, is now in Europe. During his absence our friend, Dr. Wm. Carson, occupies his place as one of the Pathologists to the Commercial Hospital.

DIED.—In Dayton, Ohio, September 10th, Dr. J. B. Craighead, aged 67, (M. D. University of Pennsylvania, 1823.)

DR. E. H. JOHNSON died recently in Cincinnati. Suitable action was taken by the profession.

WANTED—Copies of the Cincinnati *Journal of Medicine* for February, 1866. We will pay 25 cents for each one we receive.

THE AMERICAN Ophthalmological Society recently decided that no member of that body should assume the title of oculist.

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